

---

---

# JOURNAL

## OF THE

# ARNOLD ARBORETUM

---

VOLUME VII

OCTOBER, 1926

NUMBER 4

---

### TAIWANIA CRYPTOMERIOIDES HAYATA

Plate 3

ERNEST H. WILSON

THE *Taiwania* is the loftiest Conifer found in the northern parts of the Old World. It is an ancient type comparable with the *Sequoia* of western North America, and is known only from two widely separated regions, namely, the island of Formosa and extreme northwestern Yunnan. It was discovered on the mountains of central Formosa at the base of Mt. Morrison at an elevation of 2000 m. by N. Konishi in February 1904, and was described and figured by Hayata in the 'Journal of the Linnean Society,' vol. XXXVII 330 (1906). In June 1916 it was found high up on the watershed of the Salween and Irrawadi Rivers by Dr. H. Handel-Mazzetti. It was introduced into cultivation by the Arnold Arboretum to whom I sent small plants from Formosa in 1918.

The *Taiwania* is both interesting and remarkable. On Arisan, in central Formosa, in a narrow belt between 2300 and 2600 m. altitude the *Taiwania* occurs scattered through the magnificent forests of *Chamaecyparis formosensis* Matsum., *C. obtusa*, var. *formosana* Hay., *Trochodendron aralioides* S. & Z., with evergreen Oaks, *Symplocos* and *Lauraceae* in abundance. In my opinion in ancient times with the *Trochodendron* it formed extensive forests but has been defeated in the struggle by the two *Chamaecyparis* and the present trees are mere survivals. On Matsu-yama, a mountain in the Arisan forest reservation, it is more common than on Arisan itself. On Hsokei-hen, a forest reservation belonging to the Imperial University of Tokyo, it grows in small groups among evergreen Oaks.

So far as my own observations go it is a rare tree in Formosa. Small trees are very uncommon and seedlings extraordinary rare. The young trees have pendent branchlets and in the shade of the forests the branches are sparse and the tree unattractive. In the open it is in youth a singularly beautiful and attractive Conifer, densely branched with graceful branchlets and attractive green foliage. Adult trees in the forests are strikingly distinct but singularly like old *Cryptomeria* trees, and both suggest gigantic *Lycopods*. In the dense forests the crown is small, domeshape, oval or flattened, the branches few and small and one wonders how so little leafage can support so gigantic a tree. When the top is broken lateral branches

assume an erect position. In more open forests the branches are massive and wide-spreading but the crown is thin.

In height the *Taiwania* over-tops all other trees on Arisan and probably attains upwards of 200 ft. The tallest I measured was 190 ft. high and 130 ft. to the first branch. The girth is up to 30 ft.; the trunk is straight and mast-like, buttressed at the base. The bark is red-brown, fibrous, and longitudinally fissured. The wood when green is heavier than water, when air dried its specific gravity is 0.46. There is very little sap wood which is pale in color; the heart wood is rich orange-red to mahogany brown with a purplish sheen becoming duller with exposure and age. It is strong, easily worked, but is not very durable. The trees are usually solid.

Seedling plants are very rare in the forest and totally different in appearance to the adult trees. Healthy young specimens are pyramidal in outline with branches from the ground up. The branches are numerous ascending-spreading, with more or less hanging branchlets and densely clothed with falcately spreading lance-shaped leaves, each from 1 to 1.5 cm. long, pungent in the apex and decurrent at the base. The foliage and branchlets are a rich dark green and the whole aspect of the plant is distinctly ornamental. Later in life the leaves are almost scale-like with incurved apices, and are closely imbricated and appressed round the branches. The dissimilarity between young and old trees is amazing. The small inner branchlets are shed in the same manner as are those of *Cryptomeria*, *Cunninghamia* and *Sequoia*. On one occasion I found a sprout from the root of an old tree.

The *Taiwania* is essentially a light demanding tree, and in Formosa favors northerly and northeasterly exposures. It is polygamo-dioecious, and fruit is found on the tops of the oldest trees only. Male flowers on some trees are exceedingly abundant. The cone is small, ovoid barrel-shape, from 1 to 2 cm. long, with numerous thin, flexible cone-scales. The cones are terminal and sessile, and the leaves on the shoot near the base of the cone are reduced to bract-like scales.

My observations in Formosa lead me to believe that long ago *Taiwania* and *Cunninghamia Konishii* Hayata, covered vast areas of the mountains between two and three thousand metres elevation with pure forests even as at lower elevations did *Keteleeria* and *Libocedrus*. Probably in places *Taiwania* and the *Cunninghamia* grew together in luxuriant association-ship. Today these four species of trees are mere relics. Broadleaved trees have crowded out the *Keteleeria* and *Libocedrus* and *Chamaecyparis formosensis* Matsum, and its sister *C. obtusa* var. *formosana* Matsum. have done the same to the *Taiwania* and *Cunninghamia*. The *Taiwania* as an isolated tree still rears its crown above the tallest *Chamaecyparis* and dominates the scene but its seeds cannot germinate in the dense forest depths, and it is rarely that one can see a young or even middle-aged *Taiwania* in the forest.

The finding of *Taiwania* in northwestern Yunnan is one of the most in-



interesting discoveries in recent work on the Chinese flora. The exact locality is given by Dr. Handel-Mazzetti as near Ninalo west of Chamnuntung, which is west of Tsekou on the Salween River. There in side valleys, between 2300 and 2800 m. altitude he found giant trees which in habit and bark reminded him of Sequoia. The occurrence of *Taiwania* in western China and on the mountains of Formosa and at no place in between these widely separated regions is a remarkable fact in plant distribution.

I was fortunate enough in 1918 to secure three young seedling plants in the forests on Arisan and from the Forestry Station at Keitao obtained a small nursery grown plant. These were safely brought to the Arnold Arboretum. We have found that the plant roots easily from cuttings. During my visits to Formosa I collected a great many seeds of the *Taiwania* but none of them proved viable. In the late autumn of 1924, through the good services of my friend, R. Kanehira, the Arnold Arboretum received seeds which germinated quickly and we now have a nice stock of young plants. On these seedlings the normal number of cotyledons is two, but occasionally three are present.

Native of a mild, wet climate there is no possibility of the *Taiwania* being hardy in New England. In view of this fact the Arnold Arboretum has distributed the *Taiwania* among regions enjoying a more suitable climate. Of the original four seedlings brought home three have been sent to different establishments in this country where they are flourishing and the fourth was sent to Royal Gardens, Kew. The plants raised from cuttings have been distributed to botanic gardens in South America, Africa, Asia and Australasia. From several establishments we have reports of the plants growing well. The plants raised from seeds sent by R. Kanehira are now being distributing far and wide. A few years should see this most interesting Conifer firmly established in botanical and other gardens throughout the world.

---

## A NEW SPECIES OF PARAMIGNYA FROM PAPUA WITH NOTES ON TWO OTHER PAPUAN RUTACEAE

C. T. WHITE

### *Paramignya Brassii*, sp. nov.

Frutex 2 m. altus, ramis pendulis (sec. Brass); ramuli spinis numerosis singularibus vel geminatis 0.8–1.5 cm. longis tenuibus puberulis sed in fruticibus majoribus et luxuriosioribus evanescentibus muniti. Folia nitida, atroviridia (sec. Brass), breviter petiolata petiolo puberulo 2–3 mm. longo, lamina magnitudinis variabilissimi, in ramulis florentibus modo parvis (1.5 : 0.8 cm.) modo multo majoribus (usque ad 4 : 3 cm.), ovato-rhomboidea, ad apicem retuse acuminata, nervis praecipuis lateralibus utrinque 5–6 supra et subtus subprominentibus. Flores suaveolentes (sec. Brass), axillares, solitarii, pedunculati pedunculo glabro apicem versus

sensim incrassato ca. 1 cm. longo; calyx 5-lobatus lobis late deltoideis circiter 1 cm. longis marginibus ciliolatis; petala 5, obovata, 1 : 0.3 cm. magna, extus apicem versus glandulis magnis numerosis punctata; stamina 10, filamentis liberis 6 mm. longis, antheris linearibus 2 mm. longis; ovarium lageniforme, breviter stipitatum stipite in sicco irregulariter sub-costato, stylo crasso costato 5 mm. longo, stigmate discoideo. Bacca coccinea, formae variabilis, ellipsoidea, pyriformis vel obovoidea, 3 cm. longa, 1.5-2 cm. diam., 5-locularis, pulpa exigua, seminibus 1 vel 2 in quoque loculo, 1 : 0.6 cm. magnis.

PAPUA: Rigo, *L. J. Brass*, no. 817, December 9, 1925 (type; flowering and fruiting specimens; slender bush, attaining 6 ft., branches drooping, leaves glossy, dark green; flowers sweetly scented; fruit various, bright scarlet when ripe, up to 3 cm. long and 2 cm. diam, pulp scanty, insipid, rather sweet, oil-glands, numerous, seeds large; common on rich creek flats, small stunted bushes, very spiny, well grown plants almost unarmed); Rigo, Rev. *R. Lister Turber* (shrub, flowers white, single, sweetly scented, flowers in January; fruit a red berry about twice the size of the cultivated lime berry; common in the Rigo Valley); Boku, Mrs. *H. P. Schlencher*; Yule Island, *C. T. White*, no. 738 (shrub of straggling growth, among scrubby vegetation near the coast).

I had long known of the presence of this plant in Papua, but all the material hitherto received was too fragmentary to describe from. I was therefore particularly glad under the circumstances, to see the fine series of specimens represented by Mr. Brass's No. 817. The genus is not recorded as Papuan in Lauterbach's account of the Papuan Rutaceae (Beiträge zur Flora von Papuasien, VI. no. 59 in Bot. Jahrb. LV. 221-265 [1918]) so the present record extends considerably its hitherto known range.

*Citrus Warburgiana* F. M. Bailey. Lauterbach (l.c.) overlooked (perhaps excusably) two species of *Citrus* described and figured by F. M. Bailey in the 'Annual Report on British New Guinea' 1900-1901, 142, the first of these *Citrus papuana* Bail. is in my opinion referable to the widely distributed *C. hystrix* (L.) DC., the other, *C. Warburgiana* Bail., is only imperfectly known but would seem to come close to *C. paludosa* Warb., and could be placed in Lauterbach's key to the Papuan species as follows:

Leaf margins crenulate or irregularly toothed.

Leaves lanceolate, 7-14 × 2-5 cm. *C. paludosa*.

Leaves lanceolate, 5-7 × 1-2 cm. *C. Warburgiana*.

*Lunasia quercifolia* (Warb.) Lauterb. & Schum. var. *lanceolata*, var. nov.

A typo foliis integris (non sinuato-dentatis) et lanceolatis (non oblongo-obovatis) recedit.

PAPUA: Budatobara, alt. 100 m., *L. J. Brass*, no. 761. A large slender shrub 8 ft. growing in light rain forest.



This new variety differs from the type in the leaves being entire or almost so, not sinuate-dentate and lanceolate, not oblong-obovate in outline.

Lauterbach (in Bot. Jahrb. LV. 249 [Beitr. Fl. Papuas. VI] [1918]) has referred to the variability in leaf shape of the closely allied *L. amara* Blanco. The present specimens are in fruit only but have the carpels and vestiture of *L. quercifolia*. I hesitated a long time before applying a varietal name to this form particularly after the receipt of specimens intermediate between it and the type but the foliage is so very different from the type that the bestowal of a distinct varietal name seems justified.

The typical form of the species was collected by Brass on the banks of the Ioloki River (no. 1646). The intermediate form alluded to above was collected at the headwaters of the U-uma River, Eastern Division, at an altitude of 500 m. (L. J. Brass, no. 1459); its leaves differ from the type in being narrower (oblanceolate or narrowly obovate) and in not being very deeply indented, in fact sometimes almost entire.

BOTANIC GARDENS  
BRISBANE, AUSTRALIA

## MONIMOPETALUM, A NEW GENUS OF CELASTRACEAE

ALFRED REHDER

### *Monimopetalum*,<sup>1</sup> gen nov.

Flores 4-meri, hermaphroditi (ut videtur); sepala parva, patentia, erosociliata; petala sepalis multoties longiora, patentia, spathulata, leviter crenulata vel rarius dentata, persistentia; discus annularis, leviter lobatus, planus; stamina in disco ad basin ovarii inserta, filamentis brevissimis, antheris subglobosis: ovarium 4-merum, stylo brevissimo vel obsoleto. Fructus capsularis, petalis multo brevior, loculo unico tantum evoluto vel loculis duobus, rarius 3-4, ad basin fere partitis oblongis subteretibus apice obtusiusculis extus obtuse mucronulatis; locula coriacea, sutura ventrali dehiscentia, monosperma; semen sessile, erectum, oblongum, basi arillo annulari crasso instructum; albumen carnosum; embryo majusculus rectus, cotyledonibus planis ovalibus viridibus, radícula infera.—Frutex volubilis vel scandens, inermis, ramis teretibus; gemmae pluriperulatae perulis angustis acuminatis: folia decidua, alterna, petiolata, serrulata, stipulis subulatis: inflorescentiae solitariae vel binae e gemmis lateralibus in parte superiore ramulorum annotinorum, ter quaterve dichotomae, bracteis parvis persistentibus instructae, floribus pedicellatis.

Hoc genus novum *Evonymo* proximum videtur sed differt praecipue arillo brevi annulari, petalis elongatis persistentibus, inflorescentiis e gemmis lateralibus ramulorum annotinorum ortis; etiam habitu scandente et foliis alternis a plurimis *Evonymi* speciebus abhorret et eis characteribus *Celastro* simile sed floribus isomeris primo intuitu distinctum.

<sup>1</sup> Name from Greek *μόνιμος*, lasting, and *πέταλον*, petal; in reference to the persistent petals.

***Monimopetalum chinense*, sp. nov.**

Frutex circiter 6 m. alte scandens, inflorescentiis exceptis glaber, ramis gracilibus subteretibus hornotinis viridibus, annotinis intense rubro-fuscis, vetustioribus cinereis lenticellatis; gemmae pluriperulatae perulis anguste lanceolatis setoso-acuminatis laciniato-ciliatis. Folia graciliter petiolata petiolo 5–10 mm. longo, oblongo-ovata vel anguste elliptico-ovata, 4.5–8.5 longa et 1.5–3 cm. lata, longe acuminata, basi late cuneata vel interdum fere rotundata, satis dense vel interdum remotius serrulata dentibus parvis glanduloso-mucronulatis, utrinque nervis 4–6 curvatis supra et subtus prominulis, costa media supra leviter subtus magis elevato, supra laete viridia, subtus paulo pallidiora, tenuiter membranacea: stipulae setaceo-subulatae, ad 4 mm. longae, fuscae, persistentes. Inflorescentiae fructiferae (floriferas et flores non vidi), circiter 3 cm. longae et latae, pedunculo brevi vel ad 5 mm. longo, axibus secundi et tertii ordinis et pedicellis 5–8 mm. longis gracilibus, ut pedicelli minutissime puberulis; bractae ovato-oblongae, circiter 1.5 mm. longae, obtusiusculae, plus minusve laciniato-ciliatae, fuscescentes; calyx 3 mm. diam., sepalis patentibus orbiculato-ovatis, acuminulatis, eroso-ciliolatis; petala patentia, spatulato-oblonga, 8–10 mm. longa, obtusa, basi attenuata, leviter crenulata vel fere integra, rarius dente unico instructa, in sicco albo-virescentia; capsulae lobi oblongi, leviter extus curvati, apice mucronulati, 3 mm. longi, pallide luteo-virescentes; semen oblongum, 2.5 mm. longum, atrofusum, nitens, testa cartilaginea, minutissime foveolato-reticulato, imo basi arillo crasso annulari leviter lobulato circumdatum.

CHINA. Southern Anhwei: Cheman, alt. 130 m., ravine, *R. C. Ching*, no. 3096, August 2, 1925.

This interesting new Celastraceous genus belongs on account of its capsular fruit and isomorous flowers to the Celastroideae-Evonymae and is closely related to *Evonymus* but differs chiefly in the short annular aril, the persistent elongated sepals and in the inflorescence appearing from the axils of the branches of the previous season; it also differs from most species of *Evonymus* in the climbing habit, the alternate leaves and in the always one-seeded locules of the fruit; also the locules of the ovary are apparently one-ovuled, for I could find no trace of a second ovule in the mature fruit. In the unequal development of the locules the fruit shows great similarity to that of *Evonymus alatus* Reg., since usually only one or two, rarely 3 or 4 locules of the subglobose ovary develop into oblong pods connected only at the base with each other and the undeveloped locules.

---



MAGNOLIACEAE COLLECTED BY J. F. ROCK IN YUNNAN  
AND INDO-CHINA

ERNEST H. WILSON

**Magnolia L.**

**Magnolia mollicomata** W. W. Smith in Notes Bot. Gard. Edinb. xii. 211 (1920).

*Magnolia rostrata* W. W. Smith in Notes Bot. Gard. Edinb. xii. 213 (1920), in part, as to the description of the flower.

YUNNAN: Salween-Irrawadi watershed, region of Champutong, alt. 2750 m., *J. F. Rock*, no. 11517, in 1923 (tree 35 ft.).

**Magnolia Nicholsoniana** Rehder & Wilson in Sargent, Pl. Wilson. i. 394 (1913).

YUNNAN: between Chienchuan plain and the Mekong drainage basin to Lachiming, alt. 2750 m., *J. F. Rock*, nos. 8639, 8620, May, 1923 (flowers white and fragrant).

Rock describes his no. 8639 as a shrub with long rambling branches; his no. 8620 as a climbing shrub which seems very doubtful. Both numbers are flowering specimens.

**Magnolia globosa** Hooker f. & Thomson, Fl. Ind. i. 77 (1855).—King in Ann. Bot. Gard. Calcutta, iii. 208, fig. 50 (1891).

*Magnolia globosa* var. *sinensis* Rehder & Wilson in Sargent, Pl. Wilson. i. 393 (1913).

*Magnolia tsarongensis* W. W. Smith & Forrest in Notes Bot. Gard. Edinb. xii. 215 (1920).

YUNNAN: Salween-Irrawadi watershed, region of Champutong, alt. 2750–3300 m., *J. F. Rock*, nos. 10209, 11231 (small tree 8 ft., flowers white).

The young shoot is clothed with rufous-brown villose pubescence; the under surface of the leaves is densely clad with short, appressed villose tomentum either gray or rufous-brown in color. As a rule the rufous color is most pronounced on the primary and secondary veins. With the advent of numerous specimens collected by G. Forrest, by J. F. Rock, and by H. Handel-Mazzetti, I am satisfied that the plant I collected in western Szechuan and made the type of var. *sinensis* Rehder & Wilson and that of Forrest on which *M. tsarongensis* W. W. Smith is based are all referable to the typical Sikkim species of Hooker f. & Thomson.

**Magnolia rostrata** W. W. Smith in Notes Bot. Gard. Edinb. xii. 213 (1920), in part, excluding the description of flower.

YUNNAN: Salween-Irrawadi watershed, slopes of the Ssu ti Tung, or Nualo, Salween Ridge, *J. F. Rock*, no. 10160, in 1923 (tree 30 to 50 ft.); Mt. Kenyichunpo and region of Champutong, *J. F. Rock*, no. 11215, in 1923 (tree 25–30 ft.).

Rock describes the flowers of his no. 10160 as white, those of his no. 11215

as red, but both specimens are with ripe fruit; the leaves are magnificent, the largest being 50 cm. long and 32 cm. wide.

This species flowers after the leaves appear and is closely related to the Japanese *M. obovata* Thunb. and *M. officinalis* Rehd. & Wils. of central China. The species is really based on fruiting material which is fortunate. The flowers described by Smith on the collector's authority do not belong to this species but are those of *M. mollicomata* W. W. Smith, a species which produces flowers before the leaves and is related to *M. denudata* Desrousseaux, the mistake evidently being due to the mixing of material.

*Magnolia nitida* W. W. Smith in Notes Bot. Gard. Edinb. XII. 212 (1920).

YUNNAN: Salween-Irrawadi watershed, Champutong, alt. 2600–2750 m., *J. F. Rock* no. 10235 (tree 25–30 ft.); Mt. Kenyichunpo and region of Champutong, alt. 2600–3300 mm., *J. F. Rock*, nos. 10136, 11232 (tree 35–38 ft.).

Rock says the flowers are white but his specimens are all in fruit.

*Magnolia Delavayi* Franchet, Pl. Delavay. I. tt. 9, 10 (1889).—Sprague in Bot. Mag. CXXXV. t. 8282 (1909).

YUNNAN: Head waters of the Red River, mountains beyond Maokai, alt. 2300 m., *J. F. Rock*, no. 3040, April 8, 1922 (tree 25 ft.); Yangtze watershed, district of Likang, eastern slopes of Likang snow range, *J. F. Rock*, no. 3998, May, 1922 (tree 40 ft., flowers creamy white); Mountains of the Yangpi River drainage basin, *J. F. Rock*, no. 6257, August, 1922 (tree 30 ft., flowers white).

### *Michelia* L.

*Michelia yunnanensis* Franchet apud Finet & Gagnepain in Bull. Soc. Bot. France, LII. (Mém. IV. 43) t. 6, fig. a (1906); Contrib. Fl. As. Or. II. 43 (1907).

YUNNAN: Yangtze watershed, western slopes of Likang snow range, cultivated at Lamassu, *J. F. Rock*, no. 10661, in 1923–24; between Likangfu and Yunnanfu, mountains above Maton shan and Mongah shan, altitude 2750 m., *J. F. Rock*, nos. 11737, 11744, March, 1924 (shrub 1–4 ft., flowers cream-color).

*Michelia floribunda* Finet & Gagnepain in Bull. Soc. Bot. France, LII. (Mém. IV. 46, t. 7, fig. b) (1906); Contrib. Fl. As. Or. II. 46 (1907).

YUNNAN: Near Szemao, *J. F. Rock*, no. 2766, March 3, 1922 (tree 40 ft.); between Tengyueh and Talifu, alt. 1900 m., *J. F. Rock*, no. 9625, February, 1923 (tree 20 ft., flowers yellowish, fragrant); Shweli River drainage basin and environs of Tengyueh, Shui-yui-ssu, *J. F. Rock*, nos. 7933, 7961, February, 1923 (tree 20–45 ft., flowers cream-color, fragrant); East of Tengyueh near Tien-yui-ssu, *J. F. Rock*, nos. 7739, 7888, November, 1922, March, 1923 (tree 15–30 ft., flowers cream-color, fragrant).



*Michelia champaca* Linnaeus, Spec. 536 (1753).—King in Ann. Bot. Gard. Calcutta, III. 216, t. 64 (1891).

SIAM: Chiangmai province, Ban-meh-ki Schoolhouse, *J. F. Rock*, no. 1878, January 18, 1922 (tree 40 ft.).

*Michelia manipurensis* Watt apud Brandis, Ind. Trees, 8, (1906).

YUNNAN: Shweli River drainage basin, environs of Tengyueh, *J. F. Rock*, no. 8015, February, 1923 (tree 40 ft., flowers rich yellow, somewhat fragrant).

*Michelia lanceolata*, sp. nov.

Ramuli satis robusti, purpureo-brunnei, manifeste lenticellati, hornotini dense tomento villosa rufo-brunneo obtecti. Folia lanceolata vel oblongo-lanceolata, 10–20 cm. pleraque 15–20 cm. longa, 2.5–5.5 cm. lata, acuta, basi abrupte rotundata vel cuneata, supra nitida, intense viridia, reticulata, sparse villosa, subtus dense pilis adpressis sericeis griseis vestita, costa media supra impressa, subtus elevata et rufo-brunneo-tomentosa, nervis secundariis erecto-patentibus, ante marginem anastomosantibus subtus prominentibus; petioli 1–1.5 cm. longi, dense breviter brunneo-villosi. Flores axillares, solitarii, cremei, alabastra oblongo-ovoidea, pedunculati pedunculo 1.2–1.5 cm. longo ut bractea dense pilis nitentibus rufo-brunneis villosis vestito; sepala et petala subaequalia, 15–18, oblongo-spathulata, 3.5–4 cm. longa et 0.5–1 cm. lata, rotundata vel acuta, basi attenuata, exteriora basi villosa; stamina 1.2 cm. longa, filamentis 2 mm. longis, antheris acuminatis; gynophorum circiter 1 cm. longum ut axis anguste ovoidea circiter 1 cm. longa dense tomento rufo-brunneo villosa vestitum; stigma subulatum. Fructus non visus.

YUNNAN: Mekong watershed west of Talifu en route to Youngchang and Tengyueh, *J. F. Rock*, no. 6919, September–October, 1922.

A very distinct plant apparently most closely related to the Himalayan *M. lanuginosa* Wallich which has broader and larger leaves, a gray tomentum on shoot, leaf and flower, and sessile flowers.

### *Schisandra* Michx.

*Schisandra sphenanthera* Rehder and Wilson in Sargent, Pl. Wils. I. 414 (1913).

*Schizandra chinensis* Diels in Bot. Jahrb. XXIX. 322 (1900), not Baillon.

YUNNAN: Yangtze watershed, prefectural district of Likiang, eastern slopes of the Likiang snow range, *J. F. Rock*, no. 4299, May, 1922; flowers yellow, tinged pink. Mount Lauchunshan, southwest of the Yangtze bend at Shiku, *J. F. Rock*, nos. 9602, 9603, in 1923; flowers white or red.

*Schisandra glaucescens* Diels in Bot. Jahrb. XXIX. 323 (1900).

YUNNAN: West of Talifu, Mekong watershed, en route to Youngchang and Tengyueh, *J. F. Rock*, no. 6825, September–October, 1922.

*Schisandra rubriflora* Rehder & Wilson in Sargent, Pl. Wilson. 1. 412 (1913).

YUNNAN: Yangtze watershed, prefectural district of Likiang, eastern slopes of Likiang snow range, *J. F. Rock*, no. 3399, May–October, 1922 (flowers deep magenta).

*Schisandra elongata* Hooker f., Fl. Brit. Ind. 1. 44 (1872).

*Sphaerostema elongatum* Blume, Fl. Jap. III. 17, t. 5 (Schizandreae) (1851).

YUNNAN: Mountains south of Likiang near Hochin and Chiuho, *J. F. Rock*, no. 4039, May 25–28, 1922 (flowers yellow); Mekong Valley en route to Anwal, *J. F. Rock*, no. 8933, June, 1923 (flowers yellowish red).

*Schizandra grandiflora* var. *cathayensis* Schneider in Bot. Gaz. LXIII. 522 (1917).

YUNNAN: Between Chienchuan plain and the Mekong drainage basin to Lachiming, alt. 3400 m., *J. F. Rock*, no. 8595, May, 1923 (flowers rose-pink to white).

#### *Illicium* L.

*Illicium yunnanense* Franchet apud Finet & Gagnepain in Bull. Soc. Bot. France, LII. Mém. IV. 29 (1906); Contrib. Fl. As. Or. II. 29 (1907).

YUNNAN: Tsangshan range, between Tatzang and Hsiakuan, *J. F. Rock*, no. 2104, April 13, 1922 (shrub or small tree 10 ft.) between Tengyueh and Talifu, alt. 2750–3300 m., *J. F. Rock*, no. 9616, February, 1923 (tree 25 ft., flowers yellowish, fragrant); Salween-Irrawadi watershed, slopes of Champutong snow range, alt. 3300 m, *J. F. Rock*, no. 10232, in 1923 (tree 25 ft.); Mountains of the Yangpi River drainage basin, *J. F. Rock*, no. 6247, August, 1922; Shweli River drainage basin and environs of Tengyueh, alt. 3300 m., *J. F. Rock*, nos. 8003, 8018, February, 1923 (tree 25 ft., flowers pale yellow); between Talu and Hwaping, alt. 2600 m., *J. F. Rock*, no. 11725, March, 1924 (tree 15–18 ft., flowers yellow).

*Illicium burmanicum*, sp. nov.

Frutex vel arbor parva, 4–6 m. alta, glaberrima; ramuli robusti, annotini cinerei. Folia in apice ramulorum congesta, subcoriacea, oblongo-lanceolata vel oblongo-oblanceolata, interdum lanceolata, petiolo excluso 7–11 cm. longa et 2.5–4 cm. lata, acuminata et apiculata, basi late cuneata, obsolete et irregulariter crenato-serrata, supra intense viridia, costa supra impressa subtus elevata, nervis secundariis horizontalibus vel paullo ascendentibus ante marginem anastomosantibus, subtus satis prominulis; petioli 1.5–3 cm. longi, supra canaliculati. Flores solitarii, axillares, nutantes; alabastra late ovoidea, squamis suborbicularibus ciliolatis; pedunculi decurvi, circiter 1 cm. longi, bracteis pluribus membranaceis suffulti; sepala late ovata, 1 cm. longa, ciliolata; petala circiter 15, alba, purpureo-tincta, oblonga, 1.5–1.8 cm. longa et 2–4 mm. lata, interiora angustiora, apice rotundata; stamina numerosa, circiter 5 mm. longa,



filamentis 2 mm. longis compressis, antheris obtusis; carpella 8-9, stigmatibus recurvo. Fructus non visus.

BURMAH: between Sadon and the Yunnan border at Changtifang and Kambaiti, *J. F. Rock*, nos. 7408 (type), 7377, November, 1922.

This new species is most closely related to *I. manipurens* Watt which has much longer erect peduncles, not furnished with enveloping persistent bracts at the base.

#### Tetracentron Oliv.

*Tetracentron sinense* Oliver in Hooker's Icon. XIX. t. 1892 (1889).—Bean in Kew Bull. Misc. Inform. 1909, 356, fig.

YUNNAN: Mekong Valley, mountains of Kangpu, Yetche and Anwal, *J. F. Rock*, no. 8932, June, 1923; tree 12-15 ft., flowers yellowish.

### NEW SPECIES, VARIETIES AND COMBINATIONS FROM THE HERBARIUM AND THE COLLECTIONS OF THE ARNOLD ARBORETUM<sup>1</sup>

ALFRED REHDER

*Juniperus monosperma* Sarg. f. *gymnocarpa*, comb. nov.

*Juniperus occidentalis* var. (c) *gymnocarpa* Lemmon, Handb. West-Am. Cone-bearers, ed. 3, 80 (1895).

This form differs in its more or less exserted seeds. Lemmon reported it from the Sandia Mountains near Albuquerque, New Mexico; I have also seen it from two localities in Colorado and collected it myself near Flagstaff, Arizona.

× *Quercus ludoviciana* var. *microcarpa*, comb. nov.

*Quercus phellos microcarpa* Dippel, Handb. Laubholz. 108, fig. 49 (1892).

*Quercus subfalcata* var. *microcarpa* Sargent in Bot. Gaz., LXV. 454 (1918).

*Quercus chinensis microcarpa* Wezelenburg ex Sargent, l.c., as synonym.

If *Q. pagoda* Raf. (*Q. pagodaefolia* Ashe) is considered a variety of *Q. rubra* as is done by Sargent in his Manual of the trees of North America and by other authors, the two hybrids described as *Q. ludoviciana* Sarg. (*Q. phellos* × *rubra* var. *pagodaefolia*) and *Q. subfalcata* Trel. (*Q. phellos* × *rubra*) are hybrids between the same species; therefore they have to be classed under the same binomial, and as *Q. ludoviciana*, published in 1913 has priority of *Q. subfalcata* published in 1917 the former name has to be accepted as the valid binomial.

The origin of var. *microcarpa* is not known, but it seems to be an old inhabitant of the gardens of Europe. According to specimens in this herbarium it was cultivated in Kew in 1880 as *Q. robur microcarpa*, received from the Booth Nursery in Flottbeck near Hamburg apparently under this name. I collected it myself in the nurseries at Muskau, Silesia, in 1888 under the name *Q. microcarpa* and Dippel states that he received it from the same nurseries as *Q. phellos microcarpa*, while the plant in this

<sup>1</sup> Continued from vol. VII. p. 149.

Arboretum was obtained in 1903 from the nurseries of Wezelenburg & Sons in Hazerswoude, Holland, under the name of *Q. chinensis microcarpa*.

The hybrid between *Q. phellos* and *Q. rubra* may be distinguished from typical *Q. ludoviciana* as:

× *Quercus ludoviciana* var. *subfalcata*, var. nov.

× *Quercus subfalcata* Trelease in Proc. Am. Phil. Soc. LVI. 52 (1917).

*Hydrangea macrophylla* f. *Hortensia*, comb. nov.

*Viburnum macrophyllum* Thunberg, Fl. Jap. 125 (1784).

*Hydrangea macrophylla* De Candolle, Prodr. iv. 15 (1830).—Wilson in Jour. Arnold Arb. iv. 234 (1923).

*Hydrangea japonica* η. *Hortensia* Regel in Gartenfl. xv. 290 (1866).

*Hydrangea japonica* η. *plena* Regel, l.c.

For further synonyms see Wilson, l.c.

This form is the nomenclatorial type of *H. macrophylla*, but in all such cases in which the type of a species has been based on a monstrous or unusual form, it seems best to use a varietal name for this particular form to avoid any confusion with the phylogenetic type, since the binomial embraces the whole group of forms placed under the species and is often used to designate chiefly the phylogenetic type.

Regel distinguished as *H. japonica* var. *plena* a form which differs from his var. *Hortensia* only in the toothed very large sepals, but toothed sepals occur also occasionally in typical *H. macrophylla Hortensia*, and it seems advisable to unite these slight variations under one name.

*Indigofera amblyantha* var. *Purdomii*, var. nov.

A typo recedit floribus majoribus pallide lilacino-violaceis vexillo circiter 8 mm. longo et 6 mm. lato apice vix vel leviter cochleato, racemis quam folia longioribus.

CULTIVATED: Arnold Arboretum, no. 7617 (raised from seed sent by W. Purdom from North China), June 23, 1917.

This variety differs from the type in its larger flowers, the standard being about 8 mm. long and 6 mm. wide, nearly flat and light mallow-purple (Ridgway pl. XII), while the wings are slightly shorter, 3 mm. broad and Tyrian pink (Ridgway pl. XII). In the typical form the standard is 6–7 mm. long and 4–5 mm. wide, more or less hooded at the apex and of a more pinkish color. On account of its larger flowers it is handsomer than the typical form.

*Buxus microphylla* Sieb. & Zucc. var. *koreana* Nakai apud Wilson in Jour. Arnold Arb. i. 35 (1920), nomen nudum.

*Buxus japonica* Palibin in Act. Hort. Petrop. XVIII. 188 (1900).—Not Mueller Arg.

*Buxus microphylla* Nakai, [Fl. Quelpaert Isl.] 60 (1915?).—Not Siebold & Zuccarini.

*Buxus microphylla* var. *riparia* Trollope in Trans. Korea Branch Roy. As. Soc. XI. 42 (1920).—Not Makino.

*Buxus microphylla* v. *Sinica* Mori, Enum. Pl. Korea, 235 (1922).—Not Rehder & Wilson.



A typo praecipue recedit ramulis junioribus petiolisque plus minusve breviter pilosis, foliis latoribus, floribus terminalibus et axillaribus.—Frutex 25–60 cm. altus, erectus. Folia elliptica vel anguste elliptica, rarius obovata vel late obovate, interdum elliptico-ovata, 6–15 mm. longa, 4–8 mm. lata, apice obtusa vel leviter emarginata, margine revoluta, interdum supra ad costam mediam basin versus sparse brevissime pilosa, crasse coriacea.

KOREA. *Pro v. Keiki*: near Keijyo, common on side of streams on rotten granite base of Kwangaku-san, *E. H. Wilson*, no. 9625, November 23, 1917 (type); Nan-kan-san, side of torrent, *E. H. Wilson*, no. 10742, September 23, 1918. *Pro v. North Chusei*: Baiho-rei near Tanyo, *E. H. Wilson*, no. 9631. Quelpaert Island, “in silvis, Sampangsan,” *T. Taquet*, no. 1379, October, 1906.

CULTIVATED: Arnold Arboretum, under no. 11323 (introduced from Korea in 1919), October 10, 1919, July, 1922, April 1, 1925.

This variety differs from typical *B. microphylla* Sieb. & Zucc. and from var. *japonica* (Muell. Arg.) Rehd. & Wils. and var. *riparia* Mak. chiefly in its pubescent branchlets and petioles, from var. *sinica* Rehd. & Wils. in its low stature and smaller and thicker leaves. Taquet's specimen from Quelpaert is less typical and has less pubescent branchlets and slightly larger leaves.

*Aesculus glabra* var. *Sargentii*, nom. nov.

*Aesculus glabra* var. *arguta* Robinson in Gray, Syn. Fl. N. Am. II. pt. 1, 447 (1897), in part.—Robinson & Fernald, Gray's New Man. ed. 7, 560 (1908), in part.

*Aesculus glabra* var. *Buckleyi* Sargent, Silva, XIV. 99 (1902), as to the range “Iowa and Kansas;” Man. 645 (1905), in part; in Trees & Shrubs, II. 262 (1913).

*Aesculus arguta* Mackenzie & Bush, Man. Fl. Jackson Co., Mo., 128 (1902).—Daniels, Fl. Columbia, Mo., 173 (1907).—Not Buckley.

As Sargent's *A. glabra* var. *Buckleyi* is based primarily on *A. arguta* Buckley, it becomes a synonym of *A. arguta* Buckley or of *A. glabra* var. *arguta* Robinson if *A. arguta* is considered a variety of *A. glabra* Willd. The existence of the name *Aesculus Pavia* var. *arguta* Lindl. which was the reason for changing Robinson's varietal name to “*Buckleyi*,” does not under our present rules of nomenclature invalidate a varietal name under another species. This leaves the variety of *A. glabra* as defined in Trees & Shrubs, II. 262 without a valid name and I propose for it the name given above.

× *Aesculus mutabilis* var. *Harbisonii*, var. nov.

× *Aesculus Harbisonii* Sargent, Trees & Shrubs, II. 259 (1913).

As *Aesculus Harbisonii* Sarg. (*A. georgiana* × *discolor* var. *mollis*) and *A. mutabilis* Schelle (*A. discolor mollis* × *neglecta georgiana* Sargent in Jour. Arnold Arb. v. 47 [1924]) are hybrids between the same species, they should be classed under the same binomial, and *A. mutabilis* Schelle (in Beissner, Schelle and Zabel, Handb. Laubholz-Ben. 323 (1903).—*Pavia*

*mutabilis* Spach in Ann. Sci. Nat. sér. 2, II. 57 [1834]) being the oldest name, *A. Harbisonii* should be referred to it as a synonym or a variety. On account of the differences between the two forms, typical *A. mutabilis* having red and yellow flowers and the leaves villous and pale green beneath while *A. Harbisonii* has bright red flowers and the leaves only slightly pubescent at first, soon nearly glabrous and glaucescent beneath, it seems best to consider the latter a variety of *A. mutabilis*.

*Stewartia koreana* Nakai in sched., spec. nov.

Arbor 5–15 m. alta, ramulis glabris leviter angulato-flexuosis et robustioribus saltem plus minusve compressis; gemmae pubescentes. Folia late elliptica vel elliptica vel ovato-elliptica, 6–11 cm. longa et 3–7 cm. lata, acuminata, basi late cuneata vel interdum rotundata, serrulata dentibus interdum valde reductis vel distinctius serratis dentibus porrectis, utrinque laxe piloso-villosis, supra maturitate saepe glabrata, subtus pilis satis longis persistentibus ad costam nervosque densius in facie sparsius vestita; petioli 0.5–1.5, rarius 2 cm. longi, pilosi vel glabrati. Pedicelli fructiferi graciles, 1–2.5 cm. longi, glabrati, axillares vel terminales; bractae delapsae; sepala ovata extus dense sericea, intus glabra: capsula ovoidea, rostrata, circiter 2 cm. alta, sericea. Flores non visi.

KOREA: PROV. S. KEISHO, foot of Mt. Kirishan, common in woods, alt. 600–1845 m., *E. H. Wilson*, no. 9596, November 14, 1917 (type). Also specimens coll. September 21, 1922 and November 2, 1926, of plants raised from seed of no. 9596.

This new species is most closely related to *S. pseudocamellia* Maxim. which however, differs in the narrower leaves with a tendency to become obovate, with an almost obsolete serration, more narrowly cuneate at base, appressed silky-pubescent beneath, glabrous or nearly so at maturity, glabrous and somewhat lustrous above and thickish at maturity, and in the suborbicular rounded sepals. The flower of *S. koreana*, when known, will no doubt show further distinguishing characters. The plants as they grow in this Arboretum look quite distinct particularly in autumn, when the leaves of *S. pseudocamellia* assume a very dark purple-crimson color on their somewhat lustrous smooth upper surface and a purplish hue beneath, while those of *S. koreana* show a bright brownish orange or orange-red color on their dull and rather rugose upper side and a brownish or greenish yellow color beneath; moreover the leaves of the latter species are of rather membranous texture, while those of *S. pseudocamellia* are thickish and almost fleshy; also the decidedly zigzag branchlets of which the more vigorous ones are compressed in the plane of the distichous leaves are a peculiar feature of *S. koreana*. The most distinctive character, however, between the two species seems to be the character of the pubescence which consists of closely appressed silky hairs in *S. pseudo-camellia* and of pilose more or less spreading hairs in *S. koreana*.



**Acanthopanax Sieboldianus Mak. f. variegatus, comb. nov.**

*Acanthopanax pentaphyllum* var. *variegatum* Hort. apud Rehder in Bailey, Cycl. Am.-Hort. i. 11 (1900).—Bean, Trees & Shrubs Brit. Isles, i. 131 (1914).  
*Eleutherococcus japonicus* f. *variegatus* Nakai in Jour. Arnold Arb. v. 11 (1924).

When Dr. Nakai took up *Acanthopanax japonicum* Franch. & Sav. as the oldest name for the plant usually called *A. pentaphyllum* March. he had not yet seen Franchet & Savatier's type and from the description identified it with *A. pentaphyllum* March., but during his visit to the Natural History Museum of Paris he informed me in his letter of December 10, 1924, that Franchet's *A. japonicum* is identical with *A. commixtum* Nakai; the latter name, therefore, will become a synonym of *A. japonicus* Franch. & Sav. Marchal based his *A. pentaphyllum* on *Aralia pentaphylla* Sieb. & Zucc. which is a non-valid name being an erroneous identification of *A. pentaphylla* Thunb.; Marchal's combination, therefore, cannot be considered valid and his name must be replaced by the next oldest valid name which is *A. Sieboldianus* Makino.

**Aralia elata f. fastigiata, comb. nov.**

*Aralia chinensis* var. *fastigiata* Anon. in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. L. 64, no. 44378 (1922).

Of this form a living plant was received from the U. S. Department of Agriculture under no. 44378 who obtained it in 1917 from Hon. Vicary Gibbs, Aldenham House, Elstree, Herts, England, as *A. chinensis fastigiata*. It does, however, not belong to true *A. chinensis* L. differing in the elongated main axis from *A. elata* Seem which has a short main axis and large spreading subumbellate secondary axes, but to the latter, as flowering and fruiting specimens received from the Field Station of the Department of Agriculture at Bell, Maryland, clearly show. The form differs from the type in the erect or ascending branches, in the less spreading or more or less upright shorter leaves with crowded and overlapping pinnae and leaflets which are somewhat smaller and pubescent on the veins beneath at least when young.

**Cornus florida L. f. pluribracteata, f. nov.**

"Lindley's New Double Flowering Dogwood," Thos. C. Hunt, 4 pp. 2 ill. Boston (about 1915?).

A typo recedit inflorescentia bracteis 6-8 majoribus et pluribus minoribus instructa, capitulo florum toto vel plus minusve abortivo.

CULTIVATED: Greensboro, North Carolina, J. Van Lindley, 1915 (type).

In this form the usual number of four bracts in the typical species is increased to 6-8 and besides there are several smaller bracts in the centre replacing the flowerhead which is nearly or entirely aborted. The bracts are rather large measuring up to nearly 6 cm. in length, and to 4 cm. in width. This form was discovered in Orange County, North Carolina, and propagated by Mr. J. Van Lindley, Greensboro, North Carolina, who sent in 1914 a plant to the Arnold Arboretum which, however, has not yet flowered. This year we received specimens of another *Cornus florida* with

an increased number of bracts but the number of additional bracts is only 1-3 and the head of flowers is normal; this form was collected March 29, 1926, by Mr. Edward Teas in Montgomery County, Texas.

***Rhododendron arborescens* Pursh f. *flavescens*, f. nov.**

A typo recedit corolla pallide flavida, lobo superiore magis colorato et maculis duobus intensius luteis notato.

CULTIVATED: Hort, H. H. Richardson, Brookline, Mass., *A. Rehder*, July 2, 1926 (type); Arnold Arboretum, no. 16130 (plant received in 1922 from Cherry Hill nursery), *E. H. Wilson*, July, 1923.

This form with its pale yellow flowers represents a rather striking variation from the typical form with pure white flowers, but traces of yellow color can be found even in plants of otherwise typical *R. arborescens* which may show two faint yellow blotches sometimes fainter sometimes more distinct at the base of the upper lobe; such plants are found scattered among the numerous shrubs of the species planted in this Arboretum.

The corolla of the plant from Mr. Richardson's garden which was introduced from North Carolina is fairly large, measuring 4.5-5 cm. in diameter, while the other plant from the Cherry Hill Nursery has a smaller corolla with the tube, sepals and pedicels more densely glandular.

***Rhododendron arborescens* Pursh f. *rubescens*, f. nov.**

A typo recedit corolla et praesertim limbo ad marginem loborum purpureo-roseo, corolla plerumque paullo minore, lobis angustioribus, lobo superiore maculis duobus luteis notato.

CULTIVATED: Hort. H. H. Richardson, *A. Rehder*, July 2, 1926.

This form is a counterpart of *R. viscosum* f. *rubescens* Rehd. and differs from the typical white-flowered form in the more or less purple-pink limb of the corolla with the upper lobe marked at their base with two yellow blotches. The corolla is usually smaller than in typical *R. arborescens*, in the specimen cited above 3-3.5 cm. across, the upper lobe 8 mm. wide, the others narrower.

***Epigaea repens* L. f. *plena*, f. nov.**

A typo recedit floribus plenis, i.e. staminibus in staminodia petaloidea mutatis.

MASSACHUSETTS: Granby, Hampshire County, *Elbert C. Aldrich*, May 12, 1926.

This interesting addition to double-flowered forms of Ericaceae was found growing wild near Granby by Mr. Elbert C. Aldrich. As far as I know no double-flowered form of *Epigaea* has been as yet recorded. In the flower of this form the stamens are all more or less petaloid, partly rather broad and adnate to the corolla or connate at base and partly filiform, but all without anthers. The pistil is normal.

(To be continued)



## NOTES

**The Arnold Arboretum Expedition to North Central Asia.**—During the two years Mr. J. F. Rock has been engaged in exploring the flora of north central China for the Arboretum he has visited the high, nearly barren Richthofen Range in Kansu, the Kokonor region, the high and barren Amne Machin Range, the valley of the Yellow River and its heavily wooded ravines in Tibet. He made last year a partial exploration of the Tebbu country in southwestern Kansu, and during the late summer and early autumn of 1926 he extended his exploration of this region of which he wrote as follows on September 9th from the Wantsanggomba Monastery, Lower Tebbu country.

"I have never in all my life seen such magnificent scenery. If the writer of Genesis had seen the Tebbu country he would have made it the birthplace of Adam and Eve, for besides an endless variety of Conifers there are even Apple trees 40-60 feet tall but the apples are not the kind that would have tempted Eve. I am sorry to report, however, that the Conifers are on an off year this season, they are not fruiting. There is an incredible variety of Conifers the like I have never seen. We located three species which we had as yet not collected, which have this year's cones and seeds shall be collected of these species to be added to the Arnold Arboretum Conifers. Between the upper and lower Tebbu there are magnificent forests of Conifers some of which we have never seen before, and I am glad to report that they are all loaded with fruit. Unfortunately one has to pass a gorge called Tsaraku which leads to the grass country and a monastery of thieves called Datso Lhoma; the place and the gorge has an evil reputation. When we passed it there were Tibetans hiding in the bushes with their rifles and had they cared they could have made an end of the Arnold Arboretum expedition. The gorge is outside of the Choni prince's domain and is in no man's land; it leads to the uncontrolled grass country. People few in numbers are usually attacked here. There is one consolation, no Chinese "Patriots" will dare venture to this beauty spot for they do not care about scenery or forest, their only object is to plunder and should they chance to come over they would find themselves not the plunderers but the plundered, and I doubt if their hide would remain on their patriotic frames. To be more serious, I may state that I might be able to predict a good "end-all" in the shape of many parcels of seeds and many specimens of both plants and birds."

On September 14th he wrote,—

"In continuation of my letter of September 9th from this place I will just add a few lines, saying that I made a tour of the Wantsang valley to 10,000 feet elevation. The forests are perfectly wonderful. At 8500 feet we came across a species of *Populus*; it is certainly one of the finest *Poplars* I have ever seen. It is associated with *Picea*, *Abies*, *Acer*, *Sorbus* and *Betula*. This *Poplar* rivals the *Spruces* and *Abies*, the *Spruces* and one species of *Abies* reaching a height of from 100-150 feet. These *Poplar* trees grow scattered among the conifers, and have straight poles 4 feet in diameter, clothed in a drab to grayish brown bark deeply corrugated, but have for 50-60 feet from their base not a single branch; they then spread into a huge crown with large leaves dark green above and grayish green pubescent beneath; from a distance the leaves appear white. It is however, not that species with tomentose white leaves which we observed near Kouchow. I am sending you cuttings of this wonderful tree whose wood is much valued by the Tebbus but is not planted by them. On the banks of the Peshwekiang in the rocky gorges at 6500 feet elevation near the Wantsang monastery grows another *Poplar* in shape of the Lombardy *Poplar*. Of this I am sending you also cuttings. It does not occur in Choni or on the other side of the Minshan."

In a letter from Mr. Rock from Choni, Kansu, dated September 24th, he writes,—

"In the Tebbu country we found various *Hydrangeas*, *Viburnums*, many *Acer*, some huge trees, huge *Quercus*, enormous *Malus*, *Sorbus*, even *Meliosma*, a few *Koelreuteria* with large compound leaves, a species of *Padus*, a tree 60 feet tall with trunks 2 feet in diameter, glabrous glaucous leaves; this species I have only observed in the dense *Abies* and *Spruce* forests to 9500 feet elevation; the racemes bearing orange to brown small cherries are about a foot or more long. It must be a handsome tree when in flower. *Acanthopanax*, a lovely species with long drooping peduncles bearing large umbels of black fruit, the whole inflorescence being over a foot long in some individuals. There are large panicle-bearing *Aralias*, beautiful *Syringas* in the drier regions, large *Ailanthus* trees with huge clusters of red fruits, several interesting *Cornus*, *Ribes*, *Deutzia*, *Philadelphus*, *Caragana*, *Betula* we observed four distinct species, *Tilia*, *Cotoneaster*, *Juniper*, *Evonymus*, *Prunus*, *Lonicera*, among them a tree 15-20 feet tall, with shaggy papery bark of a pale flesh color, *Jasmine*, *Crataegus*, not the *C. pinnatifida*, *Xanthoxylum*, *Rhododendron* different from what we sent before, *Populus*, *Salix*, *Rosa*, *Rubus*, *Berberis* and last but not least the *Abies* and *Picea*."

Since the receipt of these letters fifty-two packages of seeds and two packages of Poplar cuttings collected in the Tebbu region have reached the Arboretum in good condition.—C. S. S.

**Accessions to the Library during the year ended June 30, 1926.**—During the fifty-three years of its existence while the Arboretum has been growing in size and usefulness and has come to be known in every quarter of the globe, side by side with the growth of its collections of living plants and its Herbarium has gone on quietly and modestly, but none the less surely, that of its Library. Unlike the other two departments the wealth of the Library has until recent years been comparatively little known. Begun with a strictly utilitarian purpose as a small reference library to supply the needs of botanical study in building up the Arboretum, an interest was soon aroused in the bibliographical aspect of the undertaking, and the collecting of rare works and of as many editions as possible of important works went rapidly on together with the acquisition of all books necessary to a well-balanced collection of works dealing with woody plants. Books of travel bearing on countries visited by the Arboretum's expeditions or containing mention of plants have also been included. The Library has gradually increased in size until at the end of the college fiscal year, it comprised 36,566 bound volumes, 8,372 pamphlets, and 100 or more works coming out in parts. Of these, 500 volumes and 202 pamphlets were added during the year. Among the books added some are deserving of special mention:

**DAS BUCH DER NATUR**, by Conrad von Megenburg, printed at Augsburg, by Johann Bämle, in October, 1475.—First edition, extremely rare.

The gift of Mr. J. Pierpont Morgan, the only other copy in the United States being in Mr. Morgan's own library. A second edition of this work and the only copy known to be in the United States was presented to the Arboretum by Mrs. J. M. Sears in 1924.

**LE GRANT HERBIER**. Alain Lotrain, Paris. [cir. 1530].—Extremely rare and fine example of an early French herbal.

Gift of Mrs. J. M. Sears.

JOSSELYN, John. *New England's rarities discovered*. London, printed for G. Widdowes. 1672. Very rare first edition.—Josselyn first visited New England in 1638, landing at Boston on July 2nd. The chronological table ranges from 1492 to 1672, and the work contains a very interesting description of the flora and fauna of New England.

Gift of Mrs. J. M. Sears.

BRUNSWIG, Hieronymus. *Liber de arte distillandi de compositis*. [Strassburg, Joh. Grüninger. 1512.]

SCOTLAND'S trees. Vol. i.—An important collection of photographs of many of the most remarkable trees of Scotland, from the library of the late Collingwood Lindsay Wood of Freeland, Forgandenny, Scotland.

STRUTT, J. G. *Deliciae sylvarum; or, Grand and romantic forest scenery in England and Scotland*.—A collection of 77 proofs in various states of the engraved title, 12 published and 7 unpublished plates. [1828–33.]

[LECOQ, H. *Statistique végétal des environs d'Avesnes*.] An unpublished MS. about 1850, containing well-executed coloured diagrams and figures. Dr. Bonnet gives an interesting account of this MS. in *Assoc. française pour l'avancement des sciences. Congrès de Lille, 1909*.

[MÉRAT DE VAUMARTOISE, F. V. *Herborisations dans les environs de Paris*.]—An unpublished MS., about 1830, written on 180 pages. The fly-leave reads: "Ce manuscrit est entier de la main de F. V. Mérat."

LIPPI, Augustin. *Description des plantes observées en Égypte, 1704*. Copy of the unpublished MS.

DESCRIPTION of different varieties of the rose. 1851. G. A. N.—Original MS. neatly written on 263 leaves, with pen and ink sketches of methods of grafting, pruning, etc.

KYBER, David. *Lexicon rei herbariae trilingue*. 1553.—Very fine, well preserved original German binding, wooden boards, covered with richly stamped vellum. Rare first edition, name of contemporary owner on first leaf.

Gift of Mrs. J. M. Sears.

EVELYN, John. *Kalendarium hortense*. 6th ed. London. 1676.

ESTIENNE, Charles. *De re hortensi libellus*. 1542.

CHABRAEUS, Dominicus. *Stirpium icones et sciagraphia*. 1666.—First edition.

MATTHIOLUS, P. A. *Commentarii secundo aucti*. 1559.—With the same series of woodcuts as in the 1554 edition, and several others. Vellum, initialed T H M D and dated 1631.

MACER, Aemilius. [De virtutibus herbarum.] *Hrebarum* [sic] vires, *Macer tibi carmine dicet*. [cir. 1525.]

Gift of Mrs. J. M. Sears.

BASSAEUS, Nicolaus. *Eicones plantarum*. 1590.—A re-issue of the woodcuts in J. Theodorus Tabernæmontanus, *Neuw kreuterbuch*. The same woodcuts were used in Gerarde's *Herbal*. 1597.

Gift of Mrs. J. M. Sears.



WORLDIDGE, John. *Systema horti-culturæ*. 3d ed. 1688.

Three hundred and fifty periodical publications are currently received by the library, eighteen having been added during 1925-26. The Journal of the Arnold Arboretum as a medium of exchange brings an interesting number from gardens and institutions in nearly every country of the world. Among the most recent are:

*Acta Instituti et Horti botanici tartuens.*

*Acta Horti botanici Universitatis latviensis.*

*Meddelanden från Göteborgs Botaniska trädgård.*

*Acta botanica Instituti botanici R. Universitatis zagrebensis.*

A unique department of the library and one that is receiving much attention is its collection of photographs, now numbering 12,515, of which 632 have been added during the year, including 200 received from Mr. Rock, the Arboretum's emissary to China.

In 1919 the Arboretum possessed 1500 mounted but unarranged and unavailable photographs gathered at random, many of them useless. At that time it was decided to build up a systematic collection including photographs of trees, botanic gardens, views, and portraits of men distinguished in botany, horticulture and landscape gardening, and to have them fully catalogued, classified, and so placed as to be immediately available. This was done, steel cases procured for containing them, and in seven years the numbers have far surpassed expectations. The first addition was that of 2100 photographs taken by Mr. E. H. Wilson during many years spent in exploration for the Arboretum in China and Japan, then followed 1500 taken by Mr. Frank N. Meyer in the same countries.

Many photographs have come to us by gift. The Park department in Rochester has shown a most helpful interest and has added very largely to the numbers and value of the collection. The rapidity with which it has grown and the demands constantly made upon it fully attest to the fact that it has filled a real need. It is the aim to have a photograph of living specimens of every genus and every species of woody plants so far as possible.

Through members of the staff who are attempting to procure pictures of all the notable trees throughout New England and also of trees through the middle West and the southern states it is gaining constantly in the possession of photographs not only of beauty and of very practical use but also as records of trees which in a few years may no longer be standing.

During the past year an especial effort has been made to strengthen the group of portraits which was in the nature of the case very small. The responses to requests have been encouraging and these with other gifts and a few purchases have made an appreciable increase.—E. M. T.

**Accessions to the Herbarium during the year ended June 30, 1926.**—The herbarium is intended to contain a representation of the woody plants of the world, but though a good beginning has been made during the 48

years of its existence, there are still some important regions, like Madagascar and some of the South Sea Islands which are poorly represented. The regions best represented are those of North America and of eastern Asia. Special attention has been paid to the Conifers of which all genera and almost all species are represented while with the Palms and some other families only a comparatively small beginning has been made. Much attention is also being paid to cultivated trees and shrubs and the aim is to have the trees and shrubs in cultivation including the garden forms represented in the herbarium from cultivated plants to form a record of their introduction and cultivation.

At the end of June, 1926, the herbarium contained 276,804 specimens of which 21,783 were added during the year from July 1, 1925 to June 30, 1926, the largest addition in any one year. The herbarium also contains a large number of fruit specimens which have not been counted. Among the accessions of last year were about 2,800 specimens from North America, 300 from South America, 1,100 from Europe and W. Asia, 5,000 from China, 500 from the Himalayas and 1900 from the Philippine Islands including a number of plants from Borneo and Sumatra, 400 from New Caledonia and 4,000 specimens of cultivated trees and shrubs. The largest single collection was one of 4,300 specimens mostly of cultivated plants but including a number of plants from southeastern Europe, which formed part of the private herbarium of C. Schneider, the other part having been incorporated in this herbarium before, and one of 2300 specimens from southwestern China and Indo-China collected by J. F. Rock and presented by the U. S. National Herbarium. Other noteworthy collections are one of 750 specimens made in Anwei, a province of China hitherto botanically almost unknown, by R. C. Ching of the National Southeastern University of Nanking, and one of 400 specimens made by C. T. White of Brisbane and partly by I. Franc of Nouméa in New Caledonia.

During the year 1925-26 there have been distributed 8600 duplicates, mostly in exchange, to 26 institutions in this country, Europe, Asia, Africa and Australia.—A. R.

**Taxodium and Glyptostrobus.**—These two genera belonging to a group of ancient and isolated types in the family have alsway attracted the attention of the student of Coniferae and therefore the critical account presented by Dr. A. Henry and Mrs. Marion McIntyre<sup>1</sup> will be of special interest to the botanists interested in Conifers and also to the palaeontologist. The paper begins with a detailed account of *Glyptostrobus pensilis* K. Koch which at present is found only in two localities in southwestern China, though in earlier periods the genus was widely distributed over the whole northern Hemisphere. The peculiar 'knees' similar to those of

<sup>1</sup> HENRY, AUGUSTINE & MARION MCINTYRE. The Swamp Cypressess, *Glyptostrobus* of China and *Taxodium* of America with notes on allied genera. (Proc. Roy. Irish Acad. XXXVII. B, 90-116, 8 pl. (1926).—Reprint: Hodges, Figgis & Co., Dublin. Price 1 s. 6 d.

*Taxodium* are described and figured and the morphological and anatomical characters of the species are described in detail and illustrated. The fossil remains in the Cretaceous and Tertiary strata are discussed and localities are given, but it is stated that the Cretaceous material is devoid of cones and therefore doubtful. Of *Taxodium* the authors distinguish three species, *Taxodium distichum* Rich., *T. ascendens* Brong. and *T. mucronatum* Ten., though they consider *T. ascendens* a sport of *Taxodium distichum*, a view not shared by the majority of American botanists who had the opportunity to observe the two species in their native habitat. The morphology and anatomy of *Taxodium* is dealt with in great detail. The structure of wood is compared with that of *Glyptostrobus*, *Sequoia* and *Wellingtonia*. The latter genus is here maintained on account of differences in foliage, cones and wood. The six plates show the habit of *Glyptostrobus pensilis*, the "knees" of this species, shoots of *Glyptostrobus* and *Taxodium* with morphological and anatomical details of leaves, flowers and cones and the structure of the wood of the two genera and of *Sequoia* and *Wellingtonia*. Besides the comparative study of the wood of these four genera the detailed account of *Glyptostrobus pensilis* is perhaps the most valuable part of the paper, as this species has been hitherto little and incompletely known. It is very rare in cultivation being grown only in a few British gardens under glass or only in favorable localities outdoors; it probably does not exist at all in American gardens.—A. R.



## ERRATA

Page 5, line 15 from below for *Arkansas* read *Van Buren*.

“ 6, line 20 for *Carya floridana* read *Carya Buckleyi*.

“ “ line 13 from below for *Betula lenta* read *Betula lutea*.

“ “ line 12 from below for 206 read 207.

“ 8, line 22 for *Q. obtusata* read *Q. obtusa*.

“ 11, between line 6 and 7 insert: *Platanus occidentalis*.

“ “ between line 15 and 16 insert: *Crataegus crus-galli*.

“ 17, line 7 from below for *Creus* read *Cereus*.

“ 29, between lines 1 and 2 under *Stranvaesia Davidiana* var. *salicifolia* insert:

*Photinia niitakayamensis* Hayata in Jour. Coll. Sci. Tokyo, xxx. art. I. 103 (1911).

*Stranvaesia niitakayamensis* Kanehira, Formos. Trees, ed. 2, 216 (1918).

“ “ between lines 6 and 7 insert:

FORMOSA. Prov. Kagi: Arisan, alt. 2500-2830 m., *E. H. Wilson*, no. 9724, January, 29, 1918.

“ 93, line, 19 for *Pteripterygia* read *Peripterygia*.

“ 95, line, 8 FOR *E. polychistus* Schltr. in herb. READ *E. polyschistus* Schltr.

“ 100, line 8 from below for *Durkeimiana* read *Duerckheimiana*.

“ 105, line 2 from below for de Soto read De Soto.

“ 114, line 8 for *A. cistifolium* read *H. cistifolium*.

“ 116, line 15 from below for Foug. read Cast.

“ 121, line 15 for *Carrica* read *Carica*.

“ 125, line 8 from below for *brevioribus* read *latioribus*.

“ 136, line 9 from below for growth read growths.

“ 163, line 13 from below for *tschouan* read *tchouan*.

“ 173, line 13 from below for *Lowderwiellk* read *Lowdermilk*.

“ 214, line 21 for *C. orbiculata* read *C. articulata*.



# INDEX

Synonyms are printed in *italics*; new names in bold-face type.

- Abies* Beissneriana, 54  
— *brachytyla*, 48  
— *chinensis*, 50  
— *Davidiana*, 53  
— Delavayi, 55  
— *dumosa chinensis*, 49, 50  
— *Faberi*, 55  
— *Fargesii*, 55  
— *Forrestii*, 56.  
— *likiangensis*, 47  
— *sacra*, 53  
— *thei-sha*, 50  
— *Tsuga*, 50  
— *yunnanensis*, 49  
*Acacia* Farnesiana, 90  
— *Lebeck*, 152  
— *macrophylla*, 152  
— *nemu*, 151  
— *epi-orbis*, 90.  
*Acalypha* neo-caledonica, 92.  
*Acanthopanax pentaphyllum variegatum*, 243  
— *Sieboldianus variegatus*, 242  
*Acanthus ilicifolius*, 102  
Accessions to the Herbarium during the  
year ended June 30, 1926, 248  
— to the Library during the year ended  
June 30, 1926, 246  
*Acer betulifolium*, 223  
— *Buergerianum*, 220  
— *cappadocicum*, 218  
— *caudatum multiserratum*, 219  
— — *ukurunduense*, 219  
— *Davidi*, 221  
— — *glabrescens*, 221, 222  
— — *horizontalis*, 221, 222  
— *discolor*, 221  
— *erianthum*, 219  
— *Francheti*, 224  
— *ginnala*, 220  
— — *Eu-ginnala*, 220  
— *Giraldii*, 219  
— *griseum*, 224  
— *Grosseri*, 222  
— *Henryi*, 225  
— *Hersii*, 222  
— *Hersii*, 222  
— *Lobelii*, 216  
— *laetum*, 217  
— — *truncatum*, 215  
*Acer leucoderme*, 130  
— *longipes*, 218  
— *Maximowiczii*, 223  
— *multiserratum*, 219  
— *oblongum*, 221  
— — *glaucum*, 221  
— *Oliverianum*, 219  
— *palmatum*, 218  
— *pictum*, 216  
— — *Mono*, 216  
— — *parviflorum*, 216  
— — *typicum mono*, 216  
— *pilosum*, 224  
— *robustum*, 218  
— *rubrum*, 129  
— — *tridens*, 129, 143  
— *saccharinum*, 129  
— *sp.*, 222  
— *spicatum ukurunduense*, 219  
— *tataricum*, 220  
— — *Ginnala*, 220  
— *tetramerum betulifolium*, 223  
— *trifidum*, 221  
— *truncatum*, 215  
— *truncatum*, 216  
— *urophyllum*, 223  
*Acropyle* Pancheri, 80  
*Acronychia laevis*, 91  
*Aegle sepiaria*, 186  
*Aesculus arguta*, 241  
— *chinensis*, 225, pl. 2  
— *discolor mollis*, 129  
— *glabra arguta*, 241  
— — *Buckleyi*, 241  
— — *Sargentii*, 241  
— *Harbisonii*, 241  
— *mutabilis Harbisonii*, 241  
*Agathis hypoleuca*, 82  
— *lanceolata*, 81  
— *Moorei*, 81  
— *ovata*, 81  
— *spinulosa*, 82  
*Agation Deplanchei*, 95  
*Aglais elaeagnoides*, 91  
*Ailanthus altissima*, 188  
— *cacodendron*, 188  
— *Giraldii*, 189  
— *glandulosa*, 188  
*Albizzia auriculata*, 90



- Albizzia julibrissin*, 151  
 — *kalkora*, 152  
 — *Lebbeck*, 152  
 — *sp.*, 152  
*Alchornea Davidi*, 192  
 — *Giraldii*, 193  
 — *rufescens*, 193  
*Alnus rugosa*, 118  
*Alphitonia neo-caledonica*, 93  
*Alstonia Duerckheimiana*, 100, 251  
 — *plumosa*, 100  
 — *Vieillardii*, 100  
*Alyxia celastrina*, 101  
 — *grandis*, 101  
 — *leucogyne*, 101  
 — *sapiifolia*, 101  
 — *semperflorens*, 101  
*Amelanchier canadensis*, 123  
*Amorpha croceolanata*, 128  
 — *fruticosa*, 127  
 — *glabra*, 127  
 — *nitens*, 128  
 — *tennesseensis*, 127  
*Ampelopsis arborea*, 131  
 — *cordata*, 131  
*Amygdalus Petunnikowi*, 29  
*Andrachne capillipes*, 190, 191  
 — *chinensis*, 190  
 — *hirsuta*, 191  
 — *phyllanthoides*, 128  
*Aralia chinensis fastigiata*, 243  
 — *elata fastigiata*, 243  
 — *Gemma*, 98  
 — *spinosa*, 132  
*Araucaria Balansae*, 84  
 — *columnaris*, 83  
 — — *luxurians*, 84.  
 — — *pendula*, 84  
 — — *Cookii*, 84  
 — — *gracilis*, 84  
 — — *luxurians*, 84  
 — — *pendula*, 84  
 — — *Raoulei*, 84  
 — — *rigida*, 84  
 — *elegans*, 85  
 — *excelsa*, 84  
 — — *Goldieana*, 83  
 — *Goldieana*, 83  
 — *intermedia*, 82  
 — *montana*, 83  
 — *Muelleri*, 83  
 — *Raouli*, 84  
 — *Rulei*, 82  
 — *Rulei*, 83  
*Araucaria Rulei compacta*, 83  
 — — *elegans*, 85  
 — — *Goldieana*, 83  
 — — *grandifolia*, 83  
 — — *patens*, 83  
 — — *pendula*, 83  
 — — *polymorpha*, 83  
 — *subulata*, 84  
 — *Van Geertii*, 83  
*Argophyllum montanum*, 88  
 — *Schlechterianum*, 88  
 Arnold Arboretum expedition to north central Asia, 68, 244  
 Arnold Arboretum, New species, varieties and combinations of the, 22, 145, 239  
*Arundinaria macrosperma*, 116  
*Ascarina rubricaulis*, 86  
*Ascyrum hypericoides*, 131  
 — *stans*, 131  
*Asimina triloba*, 121  
*Astragalus chrysoterpis*, 171  
*Austrotaxus spicata*, 81  
*Avicennia officinalis*, 101  
 — *resinifera*, 101  
*Azalea indica calycina*, 33  
*Baeckea ericoides*, 98  
 — *parvula*, 98  
 — *virgata*, 98  
*Baloghia carunculata*, 92  
 — *lucida*, 92  
 — *Pancheri*, 92  
*Bauhinia Faberi*, 153  
*Beilschmiedia lanceolata*, 88  
*Benzoin aestivale*, 122  
*Berchemia scandens*, 130  
*Betula nigra*, 117  
*Bignonia capreolata*, 135  
 — *radicans aurea*, 34  
 — — *lutea*, 34  
*Bocquillonia sessiliflora*, 92  
 — *spicata*, 92  
*Bradleya mollis*, 30  
*Bruguiera eriopetala*, 96  
 — *Rumphii*, 96  
*Brunnichia cirrhosa*, 121  
*Bumelia lanuginosa*, 134  
 — *lycioides*, 141  
*Bureavia carunculata*, 92  
*Buxus japonica*, 240  
 — *microphylla*, 240  
 — *microphylla*, 194  
 — — *koreana*, 240  
 — — *riparia*, 240  
 — — *Sinica*, 240

- Buxus microphylla sinica*, 194  
 — *sempervirens*, 194  
*Caesalpinia sepiaria*, 155  
 — *sp.*,  
*Callitris Balansae*, 85  
 — *sulcata*, 85  
 — — *alpina*, 85  
*Callitropsis araucarioides*, 85  
*Calocedrus macrolepis*, 63  
*Calophyllum caledonicum*, 95  
 — *montanum*, 95  
*Calyocarpum Lyoni*, 122  
*Calycorectes rubiginosa*, 96  
*Campsis radicans*, 135  
 — — *aurea*, 34  
 — — *flava*, 34  
*Campylotropis chinensis*, 178  
 — *Giraldii*, 178  
 — *macrocarpa*, 178  
*Canarium Whitei*, 91  
*Caprifolium flexuosum*, 37  
 — *japonicum subverticillare*, 37  
*Caragana altagana*, 170  
 — *arborescens*, 167  
 — *arborescens*, 170  
 — *brevifolia*, 165  
 — *chamlagu*, 164  
 — *chamlagu*, 157, 164  
 — *chinensis*, 164  
 — *densa*, 166  
 — *digitata*, 164  
 — *erinacea*, 166  
 — *frutescens*, 164  
 — — *floribus roseis*, 164  
 — — *rosea*, 164  
 — *frutex*, 164  
 — *jubata*, 167  
 — *Leveillei*, 165  
 — *Maximowicziana*, 166  
 — *microphylla*, 170  
 — *microphylla*, 167, 168  
 — *opulens*, 165  
 — *pekinensis*, 168  
 — *Potanini*, 170  
 — *Purdomii*, 168  
 — *pygmaea*, 166  
 — *reticulata*, 169  
 — *rosea*, 164  
 — *sericea*, 168.  
 — *stipitata*, 170  
 — *tangutica*, 166  
 — *tibetica*, 166  
 — *tragacanthoides*, 166  
 — — *villosa*, 166  
*Caragana Zahlbruckneri*, 167  
*Carpinus caroliniana*, 117  
*Carumbium nutans*, 93  
*Carya alba*, 117  
 — — *ovoidea*, 140  
 — *aquatica*, 117  
 — *Buckleyi arkansana*, 117  
 — — *villosa*, 117  
 — *cordiformis*, 117  
 — *leiodermis*, 117  
 — *ovalis obovalis*, 117  
 — *ovata*, 117  
*Casaria silvana*, 95  
*Cassia mimosoides*, 153  
*Castanea ozarkensis*, 118  
*Casuarina Cunninghamiana*, 86  
 — *Deplancheana crassidens*, 86  
 — — *debilis*, 86  
 — *equisetifolia incana*, 86  
 — *nodiflora*, 86  
 — *Poissoniana*, 86  
*Catalpa bignonioides*, 135  
 — *speciosa*, 135  
*Ceanothus americanus*, 130  
*Cedrela sinensis*, 189  
*Cedrus libanotica*, 145  
 — *libanotica*, 145  
*Celastraceae*, *Monimopetalum*, a new genus  
 of, 233  
*Celastrus angulata*, 211  
 — *articulata*, 212  
 — *flagellaris*, 214  
 — *hypoleuca*, 212  
 — *hypoleucus argutior*, 212  
 — *latifolia*, 213  
 — *latifolius*, 212  
 — *Loeseneri*, 214  
 — *Loeseneri*, 213  
 — *n. sp.*, 213  
 — *orbiculatus*, 213  
 — — *major*, 213  
 — *stylosa*, 213  
 — *Tartarinowii*, 213  
*Celtis laevigata*, 121  
 — — *texana*, 121  
 — *orientalis*, 86  
 — *pumila georgiana*, 121  
*Cephaelis Balansae*, 103  
 — *Fagueti*, 102  
 — *Pancheri*, 102  
 — *Schumanniana*, 102  
*Cephalanthus occidentalis*, 135  
*Cephalotaxus drupacea*, 40  
 — — *sinensis*, 40

- Cephalotaxus drupacea*, 39  
 — *filiformis*, 39  
 — *Fortunei*, 39  
 — *Griffithii*, 39  
 — *Mannii*, 40  
 — *Mannii*, 39  
*Cerbera* *Linnaei*, 101  
 — *manghas*, 101  
*Cercis canadensis*, 127  
 — *chinensis*, 152  
*Chamaecyparis formosensis*, 229  
*Cladrastis amurensis*, 158  
 — *Wilsonii*, 159  
*Cleidion tenuispica*, 92  
 — *Viellardi*, 92  
*Clematis alpina carunculosa*, 24  
 — *chiisanensis carunculosa*, 24  
 — *chrysocoma sericea*  $\times$  *montana rubens*, 148  
 — *Simsii*, 121  
 — *Spooneri rosea*, 148  
 — *vedrariensis rosea*, 148  
 — *versicolor*, 121  
*Clerodendron inerme*, 101  
*Cloezia canescens*, 97  
 — *Deplanchei*, 97  
 — *floribunda*, 97  
 — *ligustrina*, 97  
*Clusia Puat*, 95  
*Clusiathemum amplexicaule*, 95  
*Cissus incisa*, 131  
*Citrus Medica*, 187  
 — *trifoliata*, 186  
 — *Warburgiana*, 232  
*Cocculus carolinus*, 122  
*Codiaeum carunculatum*, 92  
 — *lucidum*, 92  
 — *Pancheri*, 92  
*Commersonia echinata*, 94  
 Conifers of Yunnan, The Taxads and, 37  
*Cordyline cannaefolia*, 85  
 — *neo-caledonica*, 85  
*Coriaria nepalensis*, 194  
 — *sinica*, 194  
*Cornus asperifolia*, 132  
 — *florida*, 132  
 — — *plurobracteata*, 243  
 — *racemosa*, 132  
*Coronanthera pedunculata stellata*, 102  
 Corrections and emendations of the second edition of Sargent's Manual of the trees of North America, 1  
*Corylus americana*, 118  
 — *avellana*  $\times$  *chinensis*, 146  
 — —  $\times$  *tibetica*, 147  
*Corylus spinescens*, 147  
 — *Vilmorinii*, 146  
*Cotinus coggygia*, 196  
 — *coggygia cinerea*, 196  
 — — *pubescens*, 195  
*Crataegus apiifolia*, 125  
 — *bellica*, 123  
 — *blanda*, 123  
 — *Bushii*, 123  
 — *Engelmannii*, 123  
 — *Harveyana*, 124  
 — *Mohrii*, 123  
 — *ouachitensis*, 124  
 — — *minor*, 125  
 — *padifolia incarnata*, 124  
 — *pilifera*, 123  
 — *regalis*, 123  
 — *seclusa*, 124  
 — *sordida villosa*, 123  
 — *spathulata*, 125  
 — *straminea*, 124  
 — *subpilosa*, 123  
 — *thermopegaea*, 125  
 — *trianthophora*, 123  
 — *viridis*, 123  
*Crossostylis grandiflora*, 96  
 — *Sebertii*, 96  
*Croton nutans*, 93  
*Cryptocarya lanceolata*, 88  
*Cryptomeria Fortunei*, 59  
 — *japonica*, 59  
 — — *japonica*, 59  
 — *Kawaii*, 59  
*Cunninghamia lanceolata*, 57  
 — *sinensis prolifera*, 57  
*Cunonia macrophylla*, 89  
 — *montana*, 89  
 — *purpurea*, 89  
*Cupania apetala*, 93  
 — *villosa*, 93  
*Cupaniopsis oedipoda*, 93  
*Cupressinnotata disticha pendula*, 22  
*Cupressus columnaris*, 83  
 — *disticha nutans*, 22  
 — — *pendula*, 22  
 — *Duclouxiana*, 60  
 — *funebria*, 61  
 — — *gracilis*, 61  
 — *japonica*, 59  
 — *pendula*, 61  
 — *sempervirens*, 60  
 — *torulosa*, 60  
*Cussonia dioica*, 98  
*Cycas circinalis*, 76



- Cycas neo-caledonica*, 76  
 — *revoluta*, 77  
 — *sp.*, 77  
*Cydonia oblonga* × *Pyrus communis*, 148  
*Dacrydium araucarioides*, 80  
 — *arthrotaxoides*, 80  
 — *Balansae*, 80  
 — *elatum compactum*, 77  
 — — *tenuifolium*, 77  
 — *lycopodioides*, 80  
 — *Pancheri*, 81  
 — *taxoides*, 80  
 — *ustum*, 78  
*Dalbergia Dyeriana*, 179  
 — *hupeana*, 179  
*Dammara hypoleuca*, 82  
 — *lanceolata*, 81  
 — *Moorei*, 82  
 — *ovata*, 81  
 — *spinulosa*, 82  
*Dedea media*, 88  
*Desmodium podocarpum*, 171  
 — *tiliifolium* Potaninii, 171  
*Diospyros macrocarpa*, 100  
 — *virginiana*, 184  
*Diplanthera Deplanchei*, 102  
*Dipteronia sinensis*, 215  
*Discostigma corymbosa*, 95  
*Dodonaea viscosa*, 93  
*Douarrea alba*, 103  
 — *speciosa*, 103  
*Dracaena neo-caledonica*, 85  
*Dracophyllum amabile*, 99  
 — *cosmelioides*, 99  
 — *gracile*, 99  
 — *ramosum*, 99  
 — *verticillatum*, 99  
*Duboisia myoporoides*, 102  
*Durandea Deplanchei*, 90  
*Dysoxylum glomeratum*, 91  
 — *minutiflorum*, 91  
*Elaeocarpus persicaefolius*, 94  
 — *polyschistus*, 94, 251  
 — *rotundifolius*, 94  
*Elattostachys apetala*, 93  
*Eleutherococcus japonicus variegatus*, 243  
 Enumeration of the ligneous plants of  
     northern China, 151  
*Epicharis minutiflora*, 91  
*Epigaea repens plena*, 244  
*Eriostemon pallidum*, 90  
*Eugenia Gacognei*, 96  
 — *Homei*, 96  
 — *multipectata*, 96  
*Eugenia ngoyensis*, 97  
 — *patens*, 97  
*Eulacta Cookii*, 84  
 — — *ovalifolia*, 84  
 — — *viridis*, 84  
 — *humilis*, 84  
 — *minor*, 84  
 — *Muelleri*, 83  
 — — *microphylla*, 83  
 — *Pancherii*, 83  
 — *Rulei*, 82  
 — — *compacta*, 83  
 — — *polymorpha*, 83  
 — *subulata*, 84  
*Evodia Daniellii*, 185  
 — *Daniellii*, 185, 186  
 — *drupacea*, 90  
 — *Henryi*, 185  
 — *hupehensis*, 185  
 — *pseudo-obtusifolia*, 90  
 — *rutaecarpa*, 186  
*Evonymus alata*, 200  
 — — *aperta*, 202  
 — — *aperta*, 200  
 — — *aptera*, 201  
 — — *pilosa*, 201  
 — — *pubescens*, 201  
 — — *subtriflora*, 201  
 — *alatus ciliato-dentatus*, 200  
 — *americana*, 129  
 — *Bungeana*, 205  
 — — *pendula*, 31  
 — *chinensis microcarpa*, 210  
 — *cornuta*, 209  
 — *elegantissima*, 208  
 — *europaea Hamiltoniana*, 203  
 — *fimbriata*, 206  
 — *fimbriata*, 207  
 — *Giraldi*, 206  
 — *Giraldii angustialata*, 207  
 — — *ciliata*, 207  
 — — *genuina*, 207  
 — *grandiflora*, 211  
 — *Hamiltoniana*, 205  
 — *japonica*, 211  
 — — *acuta*, 211  
 — — *radicans*, 211  
 — *kiautschovica*, 210  
 — — *patens*, 210  
 — *lanceifolia*, 204  
 — *Maackii*, 205  
 — *macroptera*, 209  
 — *micrantha*, 206  
 — *microcarpa*, 210

- Evonymus nana*, 200  
 — *nanoides*, 203  
 — *oxyphylla*, 209  
 — *patens*, 210  
 — *pauciflora chinensis*, 204  
 — *phellomana*, 203  
 — *porphyrea*, 208  
 — *Przewalskii*, 203  
 — *radicans*, *acuta*, 210  
 — — — *colorata*, 30  
 — *sacchalinensis*, 209  
 — *sanguinea*, 207  
 — — *brevipedunculata*, 208  
 — — *camptoneura*, 207  
 — — *laxa*, 208  
 — — *orthoneura*, 207  
 — *shensiensis*, 208  
 — *striata*, 200  
 — *subtriflora*, 201  
 — *Thunbergiana*, 200  
 — *venosa*, 210  
 — *verrucosa chinensis*, 204  
 — — *tchefouensis*, 204  
 — *verrucosoides*, 202  
 — *yedoensis Koehneana*, 205  
*Excoecaria japonica*, 193  
*Exocarpus dilatatus*, 87  
 — *neo-caledonicus*, 87  
 — *phyllanthoides*, 87  
*Exochorda dentata*, 24  
 — *racemosa dentata*, 24  
*Fagara ailanthoides*, 185  
 — *schinifolia*, 184  
 — — *macrocarpa*, 185  
*Fagraea grandis*, 100  
 — *Schlechteri*, 100  
*Ficus austro-caledonica subattenuata*, 86  
 — *Carica*, 121, 249  
 — *edulis cordata*, 87  
 — — *ovata*, 87  
 — *philippinensis*, 87  
 — *proteus*, 87  
 — *stenocarpa*, 87  
 — *Webbiana cordata*, 87  
*Flagellaria elegans*, 86  
 — *indica*, 86  
 — *plicata*, 86  
*Flindersia Fournieri*, 90  
*Flueggea suffruticosa*, 191  
*Fokienia Kawaii*, 62  
*Fontainea Pancheri*, 92  
*Fraxinus americana*, 134  
 — *pennsylvanica lanceolata*, 134  
*Frenela Balansae*, 85  
*Frenela subumbellata*, 85  
 — *sulcata*, 85  
*Garcinia amplexicaulis*, 95  
 — *corymbosa*, 95  
 — *Pancheri*, 95  
*Gardenia lucens*, 102  
 — *platyxydon*, 102  
*Geblera suffruticosa*, 191  
*Geissois hirsuta*, 89  
 — *pruinosa*, 89  
 — *racemosa*, 89  
 — *sp.*, 89  
*Geniostoma foetens*, 100  
*Gleditsia heterophylla*, 154  
 — *horrida*, 153  
 — *japonica*, 153  
 — *sinensis*, 154  
 — *sp.*, 155  
 — *triacanthos*, 127  
 — *xylocarpa*, 154  
*Glochidion Arnottianum*, 30  
 — *baladense*, 92  
 — *dasyphyllum*, 30  
 — *diospyroides*, 92  
 — *molle*, 30  
 — *obscurum*, 192  
 — *Pancherianum*, 92  
 — *puberum*, 192  
 — *sp.*, 192  
*Glyptostrobus, Taxodium and*, 249  
*Glyptostrobus pendulus*, 22  
*Gongrodiscus sufferrugineus*, 93  
*Greslania circinata*, 85  
*Grevillea Gillivrayi*, 87  
 — *heterochroma*, 87  
 — *macrostachys*, 87  
*Grossularia echinella*, 148  
*Guettarda fusca*, 102  
 GUILLAUMIN, A., Angiospermae [Ligneous  
     plants collected in New Caledonia], 85  
*Guioa collina*, 93  
 — *villosa*, 93  
*Gymnocladus dioica*, 127  
 — *Williamsii*, 153  
*Gynopogon celastrium*, 101  
 — *leucogyne*, 101  
*Halesia monticola vestita*, 134  
*Hamamelis macrophylla*, 122  
 — *vernalis*, 122  
*Hedysarum multijugum*, 171  
 — *sp.*, 171  
*Helichrysum neo-caledonicum*, 103  
 Herbarium, Accessions to the, during the  
     year ended June 30, 1926, 248

- Hibbertia altigena*, 94  
 — *Brongniartii*, 94  
 — *lucens*, 94  
 — *lucida*, 94  
 — *lucida*, 94  
 — *podocarpifolia*, 94  
 — *scabra*, 94  
 — *trachyphylla*, 94  
*Homalanthus nutans*, 93  
*Homalium Francii*, 95  
 Hot Springs National Park and vicinity.  
     Ligneous flora of, 104  
*Hugonia Deplanchei*, 90  
*Huonia laevis*, 91  
*Hybanthus austro-caledonicus*, 95  
 — *ilicifolius serratifolia*, 95  
*Hydrangea arborescens*, 122  
 — *japonica Hortensia*, 240  
 — — *plena*, 240  
 — *macrophylla*, 240  
 — *macrophylla Hortensia*, 240  
*Hypericum adpressum*, 132  
 — *cistifolium*, 131  
 — *prolificum*, 131  
*Ilex caroliniana*, 129  
 — *decidua*, 129  
 — *opaca*, 129  
 — *Pernyi*, 199  
 — *vomitaria*, 129  
 — *yunnanensis*, 199  
*Illicium burmanicum*, 238  
 — *yunnanense*, 238  
*Indigofera amblyantha*, 161  
 — — *Purdomii*, 240  
 — *Bungeana*, 160  
 — *Carlesii*, 160  
 — *Hosiei*, 161  
 — *ichangensis*, 161  
 — *Kirilowii*, 159  
 — *macrostachya*, 159  
 — *micrantha*, 160  
 — *Potaninii*, 161  
 — *Potaninii*, 161  
 — *pseudotinctoria*, 160  
 — *pseudotinctoria*, 160  
*Ionidium austro-caledonicum*, 95  
 — *serratifolium*, 95  
*Itea virginica*, 122  
*Joinvillea elegans*, 86  
*Juglans nigra*, 117  
*Juniperus chinensis*, 67  
 — *communis*, 64  
 — *formosana*, 63  
 — *horizontalis alpina*, 137  
*Juniperus Lambertiana*, 65  
 — *Mairei*, 64  
 — *monosperma gymnocarpa*, 239  
 — *morrissonicola*, 65  
 — *occidentalis gymnocarpa*, 239  
 — *pseudosabina*, 67  
 — *recurva*, 66  
 — *recurva*, 66  
 — — *densa*, 65  
 — — *squamata*, 65  
 — — *typica*, 66  
 — *religiosa*, 65  
 — *rigida*, 64, 65  
 — *squamata*, 64  
 — — *Fargesii*, 65  
 — — *Wilsonii*, 65  
 — *taxifolia*, 64  
 — *virginiana*, 116  
 — *Wallichiana*, 67  
 — — *meionocarpa*, 67  
*Keteleeria Davidiana*, 53  
 — — *formosana*, 54  
 — *Delavayi*, 53  
 — *Esquirolii*, 54  
 — *Evelyniana*, 54  
 — *Fabri*, 55  
 — *formosana*, 54  
 — *sacra*, 53  
*Knightia Deplanchei*, 87  
*Koelreuteria paniculata*, 226  
*Lantana Camara*, 101  
*Larix chinensis*, 46  
 — *Griffithii*, 46  
 — *Potaninii*, 46  
 — *thibetica*, 46  
*Lawsonia Acronychia*, 91  
 Leaves from a collector's note book, 136  
*Leptospermum parvulum*, 98  
*Lespedeza bicolor*, 173  
 — *bicolor*, 172  
 — — *intermedia*, 173  
 — *Buergeri*, 171  
 — *Caragana*, 175  
 — *Caraganae*, 175  
 — *cyrtobotrya*, 172  
 — *daurica*, 176  
 — *floribunda*, 173  
 — *floribunda*, 175  
 — *formosa*, 172  
 — *inschanica*, 175  
 — *junceae*, 176  
 — *junceae*, 174  
 — — *inschanica*, 175  
 — — *junceae*, 174, 175, 176



*Lespedeza juncea sericea*, 174, 175

— *macrocarpa*, 178

— *macrophylla*, 177

— *medicaginoidea*, 174, 175, 176

— *sericea*, 174

— *sp.*, 173

— *Stottsaе*, 172

— *tomentosa*, 177

— *trichocarpa*, 174, 176

— *villosa*, 177

— *virgata*, 177

*Leucaena glauca*, 90

*Leucopogon albicans*, 98

— *Billardieri*, 98

— *cymbulæ*, 98

— *dammarifolius*, 98

*Libocedrus austrocaledonicus*, 85

— *macrolepis*, 62

— *neocaledonicus*, 85

Library, Accessions to the, during the year ended June 30, 1926, 245

Ligneous flora of Hot Springs national park and vicinity, The, 104

Ligneous plants collected in New Caledonia by C. T. White in 1923, 74

*Limonia lucida*, 91

Lindley's New Double Flowering Dogwood,

113

*Liquidambar styraciflua*, 122, 138

*Lomatia trinervis*, 87

*Lonicera brachypoda*, 37

— — *repens*, 37

— *confusa*, 37

— *deflexicalyx xerocalyx*, 36

— *diversifolia*, 37

— *Ferdinandi induta*, 35

— *flava*, 135

— *flexuosa*, 36

— *hirsuta* × *prolifera*, 37

— — × *Sullivantii*, 37

— *japonica*, 135

— — *chinensis*, 37

— *flexuosa*, 37

— — *repens*, 36

— *nigra*, 36

— *Sargentii*, 37

— *sempervirens*, 135

— *trichosantha acutiuscula*, 36

— — *glabrata*, 35

— *xerocalyx*, 36

*Lumnitzera coccinea*, 96

*Lunasia quercifolia lanceolata*, 232

*Maackia amurensis*, 158

— *chinensis*, 158

*Maackia honanensis*, 158

— *hupehensis*, 158

*Maba parviflora*, 100

*Macaranga alchorneoides*, 92

— *Vieillardii*, 92

*Maclura pomifera*, 121

*Maesa novo-caledonica*, 99

Magnoliaceae collected by J. F. Rock in Yunnan and Indo-China, 235

*Magnolia Delavayi*, 236

— *globosa*, 235

— — *sinensis*, 235

— *mollicomata*, 235

— *Nicholsoniana*, 235

— *nitida*, 236

— *rostrata*, 235

— *tripetala*, 122

— *tsarongensis*, 235

— *virginiana*, 143

*Mallotus apelta*, 192

*Malus angustifolia*, 141

— *brevipes*, 24

— *Eleyi*, 27

— *floribunda brevipes*, 24

— — *spontanea*, 25

— *Halliana spontanea*, 25

— *prunifolia fastigiata*, 26

— *purpurea aldenhamensis*, 27

— — *Eleyi*, 27

— *robusta erecta*, 26

— *Sieboldii calocarpa*, 25

— *spontanea*, 25

— *zumi calocarpa*, 25

*Mapouria Balansae*, 103

— *Deplanchei*, 103

— *Douarrei*, 103

— *speciosa*, 103

*Melaleuca Leucadendron*, 97

— *pungens*, 97

— *viridiflora*, 97

*Melastoma denticulata*, 98

*Melia Azedarach*, 189

— *japonica*, 189

*Melicope lasioneura*, 90

*Melodinus Balansae*, 100

— *inaequilatus*, 100

— *intermedius*, 100

*Menispermum canadense*, 122

*Meryta coriacea*, 98

*Mezoneurum Baudouini*, 90

*Michelia champaca*, 236

— *floribunda*, 236

— *lanceolata*, 236

— *manipurensis*, 236

- Michelia yunnanensis*, 236  
*Microsemma salicifolia*, 95  
*Monimopetalum* 233  
— *chinense*, 234  
*Monimopetalum*, a new genus of Celastraceae, 233  
*Montrouzieria sphaeroidea*, 95  
— *sphaeroflora*, 95  
*Moorea artensis*, 97.  
— *canescens*, 97  
— *Deplanchei*, 97  
— *floribunda*, 97  
*Morinda Forsteri*, 103  
— *umbellata*, 103  
*Morus alba*, 121  
— *rubra*, 121  
*Murraya exotica*, 91  
*Myodocarpus fraxinifolius*, 98  
— *involucratus*, 98  
*Myrica cerifera*, 117  
*Myrtopsis novae-caledoniae*, 90  
*Myrtus paitensis*, 96  
— *rufo-punctatus*, 96  
— *turbinatus*, 96  
*Nageia minor*, 78  
*Nemadra elaeagnoidea*, 91  
New Caledonia, Ligneous plants collected in,  
by C. T. White in 1923, 74  
New species of *Paramignya* from Papua  
with notes on two other Papuan Rutaceae,  
A, 231  
New species, varieties and combinations  
from the herbarium and the collections of  
the Arnold Arboretum, 22, 145, 239  
*Normandia neo-caledonica*, 103  
Northern China, Enumeration of the  
Ligneous plants of, 151  
*Notelaea Badula*, 100  
— *vaccinioides*, 100  
Notes, 68, 245  
*Nyssa sylvatica*, 132  
*Ochrosia miana*, 101  
*Opuntia humifusa*, 132, 141  
— *rhodantha xanthostemma*, 149  
— *sp.*, 132  
— *xanthostemma*, 149  
*Orobis lathyroides*, 180  
*Ormanthus Badula*, 100  
— *vaccinioides*, 100  
*Ostrya virginiana*, 117  
*Oxera robusta*, 101  
PALMER, ERNEST J., Leaves from a collector's  
note-book, 136  
— Ligneous flora of Hot Springs National  
Park and vicinity, 104  
*Panax austro-caledonica*, 98  
— *crenata*, 98  
*Pancheria alaternoides*, 89  
— — *lanceolata*, 89  
— *elegans*, 89  
— *Engleriana*, 89  
— *ferruginea*, 89  
— *hirsuta*, 89  
— *insignis*, 89  
— *obovata*, 89  
— *Sebertii*, 90  
— *ternata*, 90  
*Paramignya*, a new species from Papua,  
with notes on two other Papuan Rutaceae,  
231  
*Paramignya Brassii*, 231  
*Parthenocissus quinquefolia*, 131  
— — *hirsuta*, 131  
Pear, Garber, 28  
— Kieffer, 28  
— LeConte, 28  
*Peripterygia marginata*, 93, 251  
*Phelline microcarpa*, 93  
*Phellodendron amurense*, 186  
*Philadelphus pubescens*, 122, 141  
*Phoradendron flavescens*, 121  
*Photinia nitakayamensis*, 251  
*Phyllanthus adenandrus*, 92  
— *Arnottianus*, 30  
— *baladensis*, 92  
— *Pancherianus*, 92  
— *ramiflorus*, 191  
— *simplex*, 192  
— *ussuriensis*, 192  
— *Vieillardii*, 92  
*Picea Alcockiana*, 47  
— *ascendens*, 48  
— *complanata*, 48  
— *likiangensis*, 46  
— *montigena*, 47  
*Picrasma ailanthoides*, 187  
— *quassioides*, 187  
*Piliocalyx Baudouini*, 97  
*Pinus Armandi*, 45  
— — *Mastersiana*, 45  
— *Cavendishiana*, 22  
— *Davidiana*, 53  
— *densata*, 23  
— *echinata*, 115  
— *Evelyniana*, 54  
— *excelsa chinensis*, 45  
— *Fabri*, 55  
— *Finlaysoniana*, 44  
— *insularis*, 43  
— *Kasya*, 44

- Pinus Kesiya*, 43  
 — *khasiana*, 43  
 — *Khasya*, 44  
 — *koraensis*, 45  
 — *Latteri*, 44  
 — *levis*, 45  
 — *mandschurica*, 45  
 — *Massoniana*, 45  
 — *Mastersiana*, 45  
 — *Merkusii*, 44  
 — *prominens*, 23  
 — *quinquefolia*, 45  
 — *sacra*, 53  
 — *scipioniformis*, 45  
 — *sinensis*, 22, 46  
 — — *densata*, 23  
 — — *yunnanensis*, 43  
 — *sumatrana*, 44  
 — *sylvestris*, 44  
 — *tabulaeformis*, 22, 42  
 — — *densata*, 23  
 — *Taeda*, 115  
 — *taeda*, 43  
 — *yunnanensis*, 43  
*Pirocydonia Danieli*, 148  
*Pistacia chinensis*, 194  
 — — *latifoliolata*, 195  
*Pittosporum mouanum*, 88  
 — *rhytidocarpum*, 89  
 — *Simsonii*, 88  
 — *suberosum*, 89  
 — *turbinatum*, 88  
*Planchonella Pancheri*, 100  
*Planera aquatica*, 120  
*Platanus occidentalis*, 123  
*Podocarpus alpina arborescens*, 79  
 — — *caespitosa*, 79  
 — *araucarioides*, 80  
 — *caespitosus*, 79  
 — *ferruginoides*, 78  
 — *Forrestii*, 42  
 — *gnidioides*, 79  
 — *gnidioides*, 79  
 — — *caespitosus*, 79  
 — *longefoliolatus*, 79  
 — *macrophylla*, 42  
 — — *acuminatissima*, 42  
 — *macrophyllus*, 42  
 — *Mairei*, 42  
 — *minor*, 78  
 — *neriifolius*, 41  
 — *novae-caledoniae*, 78  
 — — *latifolia*, 79  
 — *pectinata*, 81  
*Podocarpus rivularis*, 79  
 — sp., 78, 80  
 — *sutchuenensis*, 53  
 — *tazodioides*, 80  
 — *tenuifolia*, 77  
 — *usta*, 77  
 — *Vieillardii*, 77  
*Polygala sibirica*, 190  
*Polygonella americana*, 121  
*Polypodiopsis Muellieri*, 77  
*Polyscias austro-caledonica*, 98  
 — *dioica*, 98  
*Pomaderris neo-caledonica*, 93  
*Poncirus trifoliata*, 128, 186  
*Populus balsamifera virginiana*, 116  
*Prunus americana*, 127  
 — *lanata*, 127  
 — *mexicana*, 127  
 — *Munsoniana*, 127  
 — *Petunnikowi*, 29  
 — *Reverchonii*, 127  
 — *serotina*, 127  
*Pseudotsuga Davidiana*, 53  
 — *Forrestii*, 51  
 — *japonica*, 51  
 — *sinensis*, 52  
 — *Wilsoniana*, 51  
*Psidium guajava*, 96  
*Psychotria calothyrsus*, 102  
 — *Fagueti*, 102  
 — *oleoides*, 102  
 — *Pancheri*, 102  
 — — *rubiginosa*, 102  
 — *rubiginosa*, 102  
 — *rupicola*, 103  
 — *Schumanniana*, 102  
 — sp. nov., 103  
 — *speciosa*, 103  
*Ptelea trifoliata*, 128  
*Pterochrosia Vieillardii*, 101  
*Pueraria hirsuta*, 180  
 — *Thunbergiana*, 180  
*Pyro-Cydonia Danieli*, 148  
 — *Winkleri*, 149  
*Pyronia Danieli*, 148  
 — — *Winkleri*, 149  
*Pyrus Calleryana lanceata*, 28  
 — *communis* × *serotina*, 28  
 — *Eleyi*, 27  
 — *Lecontei*, 28  
 — *Malus aldenhamensis*, 27  
 — *Sieboldii calocarpa*, 25  
*Quercus alba*, 118  
 — — *latiloba*, 118



- Quercus borealis maxima*, 118  
 — *chinensis microcarpa*, 239  
 — *coccinea*, 144  
 — *garlandensis*, 119  
 — *incomita*, 120  
 — *ludoviciana microcarpa*, 239  
 — — *subfalcata*, 240  
 — *marilandica*, 118  
 — —  $\times$  *rubra*, 120  
 — *Muhlenbergii*, 118  
 — *nigra*, 119  
 — — *heterophylla*, 141  
 — —  $\times$  *rubra*, 119  
 — —  $\times$  *velutina*, 119  
 — *obtusata*, 141  
 — *Phellos*, 119  
 — — *microcarpa*, 239  
 — —  $\times$  *velutina*, 120  
 — *rhomboica*, 141  
 — *rubra*, 118  
 — — *leucophylla*, 141  
 — *Rudkinii*, 141  
 — *stellata*, 118  
 — — *araneosa*, 118, 141  
 — *Shumardii Schneekii*, 118  
 — *subfalcata*, 240  
 — — *microcarpa*, 239  
 — *velutina*, 118  
 — — *missouriensis*, 118  
*Rapanea asymmetrica*, 99  
*Rauwolfia semperflorens*, 101  
 REHDER, ALFRED, Enumeration of the Lign-  
 eous plants of northern China, 151  
 — *Monimopetalum*, a new genus of Cela-  
 straceae, 233  
 — New species, varieties and combinations  
 from the herbarium and the collections of  
 the Arnold Arboretum, 22, 145, 239  
*Ribes echinellum*, 148  
 — *odoratum xanthocarpum*, 24  
*Rhamnus caroliniana*, 130  
*Rhizophora mucronata*, 95  
*Rhododendron arborescens flavescens*, 244  
 — *arborescens rubescens*, 244  
 — *calycinum*, 33  
 — *canescens*, 132  
 — *carolinianum foliatum*, 33  
 — *indicum phoeniceum*, 33  
 — *oblongifolium*, 132  
 — *phoeniceum*, 33  
 — — *calycinum*, 33  
 — *pulchrum calycinum*, 33  
 — — *phoeniceum*, 33  
 — *roseum*, 132  
*Rhodomyrtus andromedoides*, 96  
*Rhus ailanthoides*, 187  
 — *atra*, 93  
 — *canadensis*, 128  
 — *chinensis*, 197  
 — *copallina*, 128  
 — *Cotinus*, 195, 196  
 — *glabra*, 129  
 — *javanica*, 197  
 — *Potanini*, 197  
 — *punjabensis sinica*, 197  
 — *quercifolia*, 129  
 — *semialata*, 197  
 — — *Osbeckii*, 197  
 — — *Rozburghii*, 198  
 — *sinica*, 197  
 — *sp.*, 199  
 — *sp.*, 196  
 — *succedanea*, 199  
 — — *japonica*, 199  
 — *sylvestris*, 198  
 — *Toxicodendron*, 129  
 — *verniciiflua*, 198  
 — *verniciifera*, 198  
*Robinia pseudoacacia*, 127  
 Rock, J. F., Magnoliaceae collected by, in  
 Yunnan and Indo-China, 235  
*Rosa carolina*, 127  
 — *Lyoni*, 127  
 — *setigera tomentosa*, 126  
 — *subserulata*, 126  
*Rubus Andrewsianus*, 126  
 — *Chingii*, 70  
 — *Chungii*, 70  
 — *Fraseri*, 29  
 — *odoratus*  $\times$  *parviflorus*, 29  
 — *robustus*, 29  
 — *rubrisetus*, 126  
 — *thyrsoides*, 126  
 — *ulmifolius foliis variegatis*, 29  
 — — *variegatus*, 29  
 — *villosus*, 126  
*Sabina recurva*, 66  
 — *squamata*, 65  
*Salix humilis*, 116  
 — *longifolia*, 140  
 — *longipes Wardii*, 116  
 — *nigra*, 116  
*Sambucus canadensis*, 135  
*Sapium japonicum*, 193  
 — *sebiferum*, 193  
*Sarcozygium xanthoxylum*, 181  
 SARGENT, C. S. Corrections and emenda-

- tions of the second edition of Sargent's  
Manual of the trees of North America, 1
- Sassafras officinale*, 122
- Scaevola Beckii*, 103
- *cylindrica*, 103
- *montana*, 103
- *saligna*, 103
- Schefflera Gabriellae*, 98
- *golip*, 98
- Schinus terebinthifolius*, 93
- Schisandra chinensis*, 237
- *elongata*, 238
- *glaucescens*, 237
- *grandiflora cathayensis*, 238
- *rubriflora*, 238
- *sphenanthera*, 237
- Schizocalyx rubiginosa*, 96
- Schubertia disticha pendula*, 22
- Securinega flueggoides*, 191
- *ramiflora*, 191
- Semecarpus atra*, 93
- Serianthes calycina*, 90
- *myriadenia*, 90
- Sideroxylon cinereum*, 100
- Smilax Bona-nox*, 116
- *glauca*, 116
- *hispida*, 116
- *lancifolia*, 116
- *rotundifolia*, 116
- Solmsia calophylla*, 94
- Sophora flavescens*, 157
- *galegoides*, 158
- *japonica*, 155
- — *oligophylla*, 156
- — *pendula*, 156
- — *pubescens*, 156
- *Moorcroftiana*, 157
- — *Davidi*, 157
- *viciifolia*, 157
- Soulamea fraxinifolia*, 91
- *Pancheri*, 91
- *tomentosa*, 91
- Sparattosyce dioica*, 87
- Spermolepis gummiifera*, 97
- *rubiginosa*, 96
- *tannifera*, 97
- Sphaerostema elongatum*, 238
- Spiracanthemum ellipticum*, 89
- Sponia Vieillardii*, 86
- Staphylea bumalda*, 214
- *Emodi*, 214
- *holocarpa*, 214
- *trifolia*, 129
- Stenocarpus Forsteri*, 87
- Stenocarpus laurifolius*, 87
- *laurinus*, 87
- *trinervis*, 87
- *umbellatus*, 87
- Stewartia koreana*, 242
- Stillingia nutans*, 93
- Storckia laurina*, 90
- *Pancheri*, 90
- Stranvaesia Davidiana salicifolia*, 29, 251
- *niitakayamensis*, 251
- *salicifolia*, 29
- Strasburgeria calliantha*, 88
- Styrax americana*, 134
- *grandifolia*, 134
- Symphoricarpos orbiculatus*, 135
- Syringa affinis Giraldis*, 34
- *dilatata*, 34
- *Giraldis*, 34
- *oblata dilatata*, 34
- — *Giraldis*, 34
- *Rehderiana*, 34
- *tomentella Rehderiana*, 34
- Syzygium lateriflorum*, 96
- *multipetalum*, 96
- *patens*, 97
- *sp.*, 97
- Tabernaemontana cerifera*, 100
- Taiwania cryptomerioides*, 58, 229, pl. 3
- Taiwanites*, 58
- Tapeinosperma Pancheri*, 99
- *Whitei*, 99
- Taxads and Conifers of Yunnan, 37
- Taxodium* and *Glyptostrobus*, 349
- Taxodium adscendens pendulum*, 22
- *ascendens nutans*, 22
- *distichum nutans*, 22
- — *pendulum*, 22
- — — *nutans*, 22
- *japonicum*, 59
- *sinense*, 22
- Taxus baccata*, 41
- — *cuspidata chinensis*, 41
- — *Wallichiana chinensis*, 41
- *chinensis*, 41
- *cuspidata*, 41
- — *chinensis*, 41
- Tecoma radicans flava*, 34
- — *lutea*, 34
- Tetracentron sinense*, 239
- Tetracera Euryandra*, 94
- Thuja macrolepis*, 63
- *orientalis*, 62, 71, pl. 1
- — *Kawaii*, 62
- Tieghemopanax austro-caledonicus*, 98

- Tieghemopanax dioicus*, 98  
*Tilia americana ampelophylla*, 32  
 — — — *densiflora oenophylla*, 32  
 — — — *laxiflora*, 32  
 — — — *macrophylla*, 32  
 — — — *megalodonta*, 32  
 — — *caroliniana*, 131  
 — — *floridana*, 131  
 — — *glabra ampelophylla*, 32  
 — — — *dentata*, 32  
 — — — *macrophylla*, 32  
 — — — *incisa-dentata*, 32  
 — — — *incisodentata*, 32  
 — — — *longidentata*, 32  
 — — — *longifolia dentata*, 32  
 — — — *macrophylla*, 32  
 — — — *nigra incisa*, 32  
 — — — *nigro-longifolia dentata*, 32  
 — — — *nigra macrophylla*, 32  
*Timonius platycarpus*, 102  
*Toona sinensis*, 189  
*Torreya Fargesii*, 40  
 — — *grandis*, 40  
*Trachelospermum difforme*, 134  
*Trema Vieillardii*, 86  
*Trifolium dauricum*, 176  
*Tristania Callobuxus*, 97  
 — — *glauca*, 97  
*Tristaniopsis Callobuxus*, 97  
 — — *glauca*, 97  
*Tsuga Brunoniana*, 50  
 — — *calcareae*, 50  
 — — *chinensis*, 50  
 — — *diversifolia*, 50  
 — — *dumosa chinensis*, 50  
 — — *dura*, 49  
 — — *formosana*, 50  
 — — *Forrestii*, 50  
 — — *intermedia*, 50  
 — — *leptophylla*, 49  
 — — *patens*, 50  
 — — *Sieboldii*, 50  
 — — *Wardii*, 50  
 — — *yunnanensis*, 49  
 — — *yunnanensis*, 50  
*Tumion fargesii*, 40  
*Ulmus alata*, 120  
 — — *americana*, 120  
 — — *fulva*, 120  
 — — *serotina*, 120  
*Uragoga Balansea*, 103  
 — — *calothyrsus*, 102  
 — — *Faguetei*, 102  
 — — *oleoides*, 102  
*Uragoga Pancheri*, 102  
 — — *rupicola*, 103  
*Vaccinium arboreum*, 133  
 — — *corymbosum*, 133  
 — — *Elliotii*, 141  
 — — *stamineum*, 133  
 — — *vacillans*, 133  
 — — — *crinitum*, 133  
 — — — *virgatum*, 133  
 — — — *speciosum*, 133  
*Ventilago leiocarpa*, 93  
 — — *neo-caledonica*, 93  
*Viburnum macrophyllum*, 240  
 — — *nudum*, 135, 141  
 — — *prunifolium*, 135  
 — — *rufidulum*, 135  
*Vicia unijuga*, 179  
*Vitis cinerea*, 131  
 — — *Coignetiae glabrescens*, 31  
 — — *cordiformis*, 130  
 — — *Kaempferi glabrescens*, 31  
 — — *Lecontiana*, 131  
 — — *Linsecomii glauca*, 130  
 — — *palmata*, 130  
 — — *rotundifolia*, 131  
 — — *rupestris*, 130  
 — — *vulpina*, 141  
*Vitex trifolia*, 101  
 WHITE, C. T., A New species of *Paramignya* from Papua with notes on two other Papuan Rutaceae, 231.  
 — — Introductory note, Ligneous plants collected in New Caledonia in 1923, 74  
 WILSON, ERNEST H., *Gymnospermae* [Ligneous plants collected in New Caledonia], 76  
 — — *Magnoliaceae* collected by J. F. Rock in Yunnan and Indo-China, 235  
 — — *Taiwania cryptomerioides* Hayata, 229  
 — — The Taxads and Conifers of Yunnan, 37  
 — — *Thuja orientalis* Linnaeus, 71  
*Wistaria brachybotrys*, 162  
 — — *brevidentata*, 163  
 — — *chinensis*, 161, 162  
 — — *frutescens albo-lilacina*, 149  
 — — — *rosea*, 149  
 — — — *macrostachya*, 128  
 — — — *albo-lilacina*, 149  
 — — *sinensis*, 161  
 — — *venusta*, 162  
 — — *violacea*, 163  
 — — *villosa*, 161  
*Xanthoceras sorbifolia*, 227  
*Xanthostemon rubrum*, 97  
 — — *sp.*, 97



- Xanthoxylum* sp., 184  
*Xolisma ligustrina*, 133  
— — *foliosiflora*, 133  
— *mariana*, 133  
*Xylosma suaveolens*, 95  
*Xylosteum flexuosum*, 36  
*Yucca glauca*, 116, 140  
Yunnan, Taxads and Conifers of, 37  
*Zanthoxylum alatum*, 184  
— — *planispinum*, 183  
— *americanum*, 128, 141  
— *Bretschneideri*, 185  
— *Bungeanum*, 182  
— *Bungei*, 181, 183  
— — *imporforatum*, 182  
*Zanthoxylum Bungei Zimmermannii*, 183  
— *Clava-Herculis*, 128  
— *Daniellii*, 185, 186  
— *nitidum*, 181  
— *Piasezkii*, 183  
— *piperitum*, 184  
— *piperitum*, 183  
— *planispinum*, 184  
— *schinifolium*, 184  
— — *macrocarpum*, 185  
— *setosum*, 183  
— *simulans*, 181  
— *simulans Zimmermannii*, 183  
— *undulatifolium*, 183  
*Zygophyllum xanthoxylum*, 181